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DESIGNING MANAGEMENT CONTROL SYSTEM TO SUPPORT PRICING PROCESS HARMONIZATION

A Case study

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Abstract

According to various studies, pricing is the most important profitability lever. Despite of this, academics and professionals have been showing limited interest into the field of pricing. During the last three decades, the emergence of Interned based market platforms (E-commerce) has increased the price transparency. This combined with the constantly tightening competition and product commoditization has driven the accelerating price erosion in various markets. These changes have mainly affected the B2C consumer industries, but are now emerging in the more traditional B2B industrial markets as well.

Due to the transformation of external environment, many companies have started to pay more attention into their pricing practices. The goal has been to mitigate the negative effects and to generally improve the pricing performance. In practice, this means that companies are implementing more systematic processes and tools into their pricing processes. Especially, managing and controlling the discounting policies is essential for obtaining consistent prices and to increase the profitability.

Marketing scholars have primarily focused on the pricing strategy research. Less effort has been paid to the pricing strategy implementation. Hence, they provide limited number of tools for pricing performance optimization. As solutions, management accounting literature offers management control systems. These controls have mainly been thought as tools for strategy implementation and performance management. Thus, they provide a suitable framework for solving various pricing related challenges and to improve the general pricing performance.

This thesis is a normative case study that seeks to improve the pricing process of a multinational industrial company. The company is facing the price pressures brought by the E-commerce and tightening competition. The goal is to design a management control system, which can aid the company to achieve consistent prices in different sales channels. The most important motivation is to increase or at least to retain the profitability.

Keywords Pricing, management control systems, pricing management, customer profitability

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Tiivistelmä

Useat tutkimukset osoittavat hinnan olevan tärkein kannattavuustekijä. Tästä huolimatta, akateemiset tutkijat ja liike-elämän ammattilaiset ovat osoittaneet vähäistä kiinnostusta hinnoittelua kohtaan. Viimeisten kolmen vuosikymmenen aikana Internet on mahdollistanut erilaisten verkkokauppa-alustojen yleistymisen, joka on johtanut hintojen läpinäkyvyyden kasvuun. Tämä yhdistettynä jatkuvasti kiristyvään kilpailuun ja tuotteiden yleistymiseen johtaa kiihtyvään hintaeroosion useilla markkinoilla. Nämä muutokset ovat pääsääntöisesti vaikuttaneet ainoastaan B2C markkinoilla, mutta nyt muutokset ovat näkyvissä myös perinteisillä teollisilla B2B markkinoilla.

Näiden negatiivisten vaikutusten välttämiseksi, yritykset ovat alkaneet panostaa enemmän hinnoittelun johtamiseen. Käytännössä tämä tarkoittaa järjestelmällisempien lähestymistapojen käyttämistä hinnoitteluprosessissa. Erityisesti alennusten johtaminen ja kontrollointi on tärkeää yhtenäisten hintojen ja kannattavuuden näkökulmista.

Markkinoinnin tutkijat ovat pääsääntöisesti keskittyneet hinnoittelustrategioiden tutkimiseen. Tämän takia strategioiden implementointi ja hinnoittelun optimointi ovat jääneet vähemmälle huomiolle. Johdon ohjausjärjestelmät on yleisesti nähty sopivina työkaluina strategioiden implementointiin. Tämän takia niiden pitäisi myös tarjota sopiva viitekehys hinnoittelun johtamisen tueksi, niin strategioiden implementointiin kuin yleiseen hinnoittelun optimointiin.

Tämän tutkielman tavoitteena on etsiä ratkaisuja globaalisti toimivalle teolliselle yritykselle, jonka tavoitteena on kehittää hinnoitteluprosessiaan. Tarkoituksena on identifioida oleellisia ja sopivia ohjausjärjestelmiä hinnoittelun tueksi. Myös olemassa olevat järjestelmät analysoidaan ja ehdotuksia niiden kehittämiseksi tarjotaan. Lopullisena tavoitteena on kehittää ohjausjärjestelmä, joka tukee case-yrityksen tavoitetta saavuttaa yhtenäiset hinnat eri myyntikanavien välillä, sekä parantaa yrityksen kannattavuutta.

Avainsanat Hinnoittelu, ohjausjärjestelmät, hinnoittelun johtaminen, asiakaskannattavuus

Preface

Topic for this thesis initially came up in an unofficial lunch discussion with one of the case-company's managers. We were discussing the radical and rapid change occurring in the industrial pricing environment. The key question was how the company should respond to the transition. I inquired if there could be any master's thesis opportunities within this topic. After the initial affirmative answer, this almost ten months long journey had begun.

As the academic pricing field lies mainly in the marketing domain, it was challenging to find a proper approach from the management accounting perspective. After various discussions and brainstorming session with the case company and university representatives, we found the fundament question. We agreed that managing and controlling the pricing process fits perfectly in the management accounting terrain.

The thesis process was challenging, but most importantly, it was a fruitful learning adventure. I learned how to approach and manage a complex entirety from various perspectives by combining several information sources. Finally, it was astonishing to come up with the recommendations.

I want to express my deepest compliments to all the case company representatives and colleagues for providing me this opportunity and for all the time and support during the process. I wish that you will find this thesis as a beneficial for solving at least part of the challenges related to the pricing process development.

Without forgetting the accounting department's staff, I want to thank my supervisor professor Teemu Malmi for all the valuable guidance and advice during the thesis project. Also, professor of practice Jari Melgin for his consultancy at the beginning of the project and all the other faculty staff for the high-class teaching.

Helsinki 31.8.2018

Mikko Junnola

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1 Introduction

This section provides a general introduction to the thesis contents. First, the background of the thesis will be introduced. Secondly, the motivation for the thesis will be provided. Thirdly, the research objectives and the limitations including the specific research question(s) will be presented. Last, an overview of the thesis structure is expressed.

1.1 Background

The field of product and service pricing has been evolving rapidly during the last three decades. The change has mainly been driven by the emergence of price transparency, dynamic pricing and advanced big data analytics (McKinsey 2015). All these factors are firmly presented in the online marketplaces, which are often referred as *E-commerce platforms*. The emergence of E-commerce has allowed customers to compare prices and to order products and services across the globe with limited effort. This has increased the price transparency in various business sectors and industries. This change has been on-going in the business-to-consumer (B2C) industries almost since the era of Internet began. However, now this transition is also emerging in the more traditional industrial business-to-business (B2B) markets as well.

Constantly increasing price transparency combined with tightening competition result into a continuously accelerating price erosion of the industrial suppliers and service providers (Hinterhuber and Liozu 2012). This is especially highlighted in the industrial markets, where the buyers are typically professionals, who are more cost sensitive and less emotion driven than the customers in the generic consumer markets. The price erosion has been forcing companies to adapt more sophisticated pricing strategies and policies. These methods have also begun to consider the external market information in addition to the internal cost-based information.

The cost-based pricing has been dominant due to its simplicity and its reliance on the internal cost-information, which is often readily available from the firms' accounting systems. However, the cost driven pricing strategies aim not to increase the profitability via price optimization (Laitinen 2011; Hinterhuber 2008). As solutions, the competition-based pricing and especially the value-based pricing enable the companies to differentiate from their competitors to protect the market shares and profits (Keränen and Jalkala 2014). However, these pricing approaches require more management attention and more structured approaches in both price

planning and execution. In practice, this means that a deployment of formal pricing process with adequate management controls is often required. These controls could include for example, pricing guidelines, budgets, incentive and reward policies that fit better to these strategies. Considering these aspects, the management control systems (MCS) seems to be the appropriate field to seek solutions for pricing management support.

This thesis will focus on a large multinational industrial company that is facing all the previously mentioned changes in the external environment. The case company is responding to this by shifting the pricing strategies away from the cost-based pricing to the competitor and value-based strategies. The goal is to prepare for the generalizing E-commerce by having consistent global prices in all the sales channels with clear rationale behind the prices. The requirement for the price consistency is inevitable because the customers are already getting confused by the considerably varying prices in the different market places. The E-commerce platforms allow the customers to purchase their products globally from any country wherever the products are cheapest. The only difference is the freight and customs costs. Thus, it is essential to have a global threshold for the prices.

To overcome these challenges and to get the pricing process under control, solution is to implement and adjust the management controls in the pricing process. In fact, the case firm has not had a formal pricing process with any distinct and relevant controls. The overall attitude towards pricing has been ad-hoc in nature. This has resulted into a situation, where the realized sales prices do not clearly correlate between the desired pricing strategies. In addition, the discount levels are generally too high and there is no clear relation between the account size and the discount percentages. This results into a weaker overall profitability. The same issue is also happening between the different sales channels. For example, some channels are more price aggressive than the others, and thus the channels should optimally have similar pricing characteristics. (Figure 1. illustrates the current unclear discount policies)

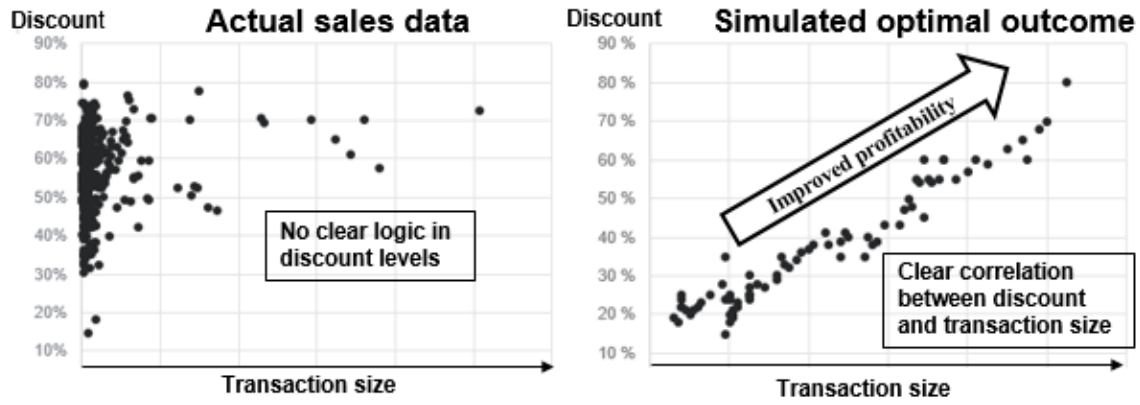


Figure 1. Left charts shows actual sales data from pilot countries. Each black dot represents a transaction. The right chart shows simulated optimal outcome, which would result into increased profitability.

In conclusion, the background of the thesis can be expressed in the following causal connection: The external factors like E-commerce and market saturation are causing profit margin deterioration. As the cost reductions always, have limits, this forces the companies to seek improvements in their topline. The case firm's initiative to pay more attention to the pricing revealed more flaws in the current process (Figure 1.). Due to this, the case company's management has recognized a serious need for the pricing management and control.

1.2 Motivation

"Fewer than 5% of Fortune 500 companies have a full-time function dedicated to pricing, according to data from the Professional Pricing Society, the world's largest organization dedicated to pricing"

Hinterhuber and Liozu (2012) - MIT Sloan Management Review

Pricing is one of the key management decisions, as it has great influence on companies' strategic and financial performance (Laitinen 2011). Various Compustat studies based on Fortune lists of the world's largest companies have found that pricing is the most important profitability lever, because it exceeds the impact of volume and cost reductions (Deloitte 2011; Marn and Rosiello 1992). Similarly, Hinterhuber's (2004) findings suggest that efforts dedicated to pricing seem to surpass all the other factors' profit contribution in the marketing mix

Considering these findings, one could assume that pricing is every management's top priority. However, often pricing process does not receive the management attention it should (Hinterhuber & Liozu 2012; Lancioni 2005; Hinterhuber 2004; Marn & Rosiello 1992). This lack of management focus often results into weaker performance in sales, profitability and market share (Lancioni 2005). To avoid these issues, the management should consider pricing as a strategic process, not as a set of insignificant individual decisions (Lancioni 2005).

Shifting the focus of pricing from ad-hoc activities to a strategic process requires changes in the organizational culture, structure and policies (Lancioni 2005). Similarly, to any organizational changes, these transformations are rarely easily implemented and organizational inertia will often emerge. In addition, according to Laitinen (2011) and Monroe (1990), the changes in the pricing management are difficult to conduct due to it being often a complex and demanding process. Pricing is also a cross organizational activity, which involves various functions and departments.

Considering these facts, it should be clear that all the profit oriented organizations should pay attention to their pricing as it has direct impact on their profit margins. This builds up the main motivation behind this thesis. Considering the case firm's large size, even small pricing improvements can result into noticeable increase in profits. However, it is essential to understand that the externally driven price erosion is forcing the company into a constantly declining price trajectory. This will devour the profitability in the long-term, and during the thesis time frame, it is difficult to reliable measure and estimate the profit impact.

However, this does not mean that improving the pricing process would be worthless. Instead, it is at least a way to mitigate the negative impacts of the price erosion. In this case, the motivation of this thesis can be justified with the organizational learning and the internal process enhancement. In practice, these mean more manageable and more formal pricing process. This can result into a situation where the customers will perceive coherent and well justified prices in all the sales channels. Finally, these aspects have the possibility to strengthen the competitive advantage in the long-term.

1.3 Research setting, objectives and limitations

This thesis is a normative study of MCS development in the pricing context. The purpose is to provide analysis and suggestions to improve the case firms pricing process with relevant management controls. First, the current pricing process will be thoroughly analyzed and the challenges will be identified. Then, solutions will be provided to the relevant issues. It should be acknowledged that due to the complexity of the pricing process and the due to the large size of the case company, this thesis cannot provide a throughout solution to all the related questions. Instead, the goal is to provide a general framework for the case firm's management. The purpose is to provoke contemplation process in the management team, which will then guide the pricing process development.

The practical thesis execution consists of an active participation in the collaborative workshops with the case company's representatives, utilization of the internal materials, conducting interviews and active observations by the author. In addition, literature will be main source of the information and the best practices that could be applied in the case company's context. As the pricing context is an interdisciplinary topic, a synthesis of the accounting, marketing and management literature will be drawn. Both academic and professional literature will be utilized.

Due to the topic being broad, some topics must be left out of the scope. For example, the pricing strategy development is not discussed. However, a brief introduction to the strategies is provided, as the pricing strategy's nature affects the control system design. In addition, cost accounting will not be discussed on detailed level. This is because later in the case section it is explained that the case firm's sales units are mainly revenue centers that have less cost responsibility. This means that their primary instrument is revenue optimization via price or volume improvements. In addition, the product costs can be assumed to be constant and steady. This is because most of the costs are predetermined during the research and development (R&D) phase of the product life cycle and the costs cannot mainly be affected later. Due to this, the profit potential should rationally occur and be measured in the customer perspective by price improvements. Thus, meaning that the cost structure analysis should receive less attention from the control perspective.

The research question can be summarized into the following sentence:

What kind of management controls should be applied to the case company's pricing process to get rid of too large and inconsistent discounts?

Additionally, the controls must meet the following sub-criteria:

- Aim to increase and retain customer profitability
- Be suitable in competitor- and value-based pricing strategies
- Respond to the challenges of globally transparent prices and increased competition brought by the E-commerce
- Provide a foundation to support the overall pricing management process in future (mainly pricing strategy development and adjustment)

1.4 Structure

The thesis will adhere to the following structure: *Chapter two* will provide a brief synthesis of the academic pricing research with the purpose of finding what management accounting's role is in the pricing context. *Chapter three* presents an overview of the pricing as a strategic process and as a management practice. The purpose is to examine common issues related to pricing strategy implementation and to identify the need for management control. In addition, some specific control methods presented in the pricing literature will be introduced. *Chapter four* provides an overview of the management control systems. The purpose is to provide a brief overview of the conceptual development of the MCS field. Also, analysis of a relevant management control framework is presented. Finally, a synthesis between the pricing literature and management control literature is drawn to act as a theoretical basis for the case solution. *Chapter five* consists of the case-study description. First, an overview of the company is given. Secondly, the current pricing process and controls systems are presented. *Chapter six* will provide recommendations for the management control implementation and transformation. *Chapter seven* consists of conclusions including managerial implications and further academic research avenues.

2 Pricing as an interdisciplinary topic - A brief synthesis of the extant literature

This section will provide a brief synthesis of the pricing related academic articles from the fields of economics, marketing and accounting. The purpose is to find management accounting's contribution to the pricing research especially from the management control perspective.

2.1 Origins of the pricing theory

Pricing is a strongly interdisciplinary subject, both as a managerial process and as an academic research topic. These fields consist mainly of economics, accounting and marketing (Hornby and MacLeod 1996). The original theory of price relies for example, on the supply-demand relations, the price elasticity models and game-theoretical price setting. However, these theoretical models are rarely applicable in practice (Monroe 1979). This argument is supported by the marketing academics' arguments that in practice, successful pricing is defined more by the firms' capabilities to manage the pricing process efficiently (Hinterhuber 2012, Lancioni 2005, Dutta et al. 2003).

As these findings suggests, it would be hard to imagine the case company finding any directly beneficial answers from the economic theorems. However, they provide some background understanding to the pricing management. For example, understanding the price elasticity of demand could assist to find proper pricing strategies for certain products and services (for further reading see Noble and Gruca 1999). Practical illustration of this is that if a certain product's price elasticity of demand is strongly inelastic, this allows the firm to increase its prices remarkably with only minimal volume losses. The other approach that companies utilize for price optimization are algorithms that are based on econometric models. However, using these methods in pricing management often requires an immense amount of data and analytics, and most importantly, a suitable business model. For example, companies like Uber and Airbnb can utilize algorithm based dynamic pricing mainly because their service-based business model allows this. In addition, these methods are rarely seen in industrial product markets but might emerge in the future. However, at this point, it is fair to state that economics offer limited number of practical pricing management tools. For an excellent overviews of econometrical pricing optimization analyses, see Bitran and Caldentey (2003) and Tellis (1988).

However, the question that remains is how economists and accountant's perspectives of the theoretical pricing management differ. From the economists' viewpoint, the neoclassical theory of the firm, suggests that optimal prices should be defined by equating marginal (variable) costs with the marginal revenues. This is called the *Amoroso-Robinson relation*. On the opposite, the accountants argue that instead full costing should be applied to find the optimal prices (for origins see Hall and Hitch 1939). This approach has also been the dominant pricing practice in reality (Guilding et al. 2005). This disagreement has resulted into various clashes between the economists and accountants. Lucas and Rafferty (2008) and Lucas (2003) have examined these standpoints to find answers why the theory and practice do not meet. Scapens (1994) called this difference *the reality gap.* To overcome these challenges and turn the theory into practice different, more practical, avenues should be pursued. Sharp (1994) argued that to turn the complicated pricing decisions into manageable activities, standard routines and procedures should be implemented. In summary, the economic pricing theories provide little or no solutions to the pricing management in this thesis. Instead, more practical approaches are sought in the management accounting and marketing literature. Next, the marketing literature's standpoint is introduced.

2.2 Marketing as a primary field of research

Majority of the pricing literature originates from the marketing domain. The focus has been in defining pricing strategies and designating them optimally in different contexts (see for example, Noble and Gruca 1999; Tellis 1986). Still, scarce attention has been paid to pricing generally, and especially into pricing strategy implementation. Hinterhuber (2004, p. 765) stated that: *"not only managers, but also academics are showing little interest in the subject of pricing. Marketing scholars have devoted only little effort to pricing theory and practice"*. In addition, Hinterhuber and Liozu (2012) state that less than two percent of the marketing related articles are focused on pricing.

However, various academic marketing publications call for the control and monitoring processes in the pricing context (see for example; Hinterhuber 2008; Sodhi and Sodhi 2005; Lancioni 2005; Kotler 2003). Despite of this, the literature offers limited amount of theoretical or practical procedures that could help to solve the control issues. This obvious gap seems to be the point where the management accounting could step in and provide the tools and procedures

to get the pricing process in control. This is supported by the fact that the management control systems (MCS) have been traditionally considered as strategy implementation tools (Simons 1991). After all, pricing on the operational level is similar to any management process that aims to the implementation of corporate strategies.

From the operational pricing perspective, there are some literature in the marketing field that pays significant attention to the MCS (see for overviews: Baldauf 2005; Piercy et al 1999). However, these articles are mainly from the general sales management perspective and not directly from the pricing viewpoint. A clear distinction between the pricing and general sales management should be recognized. Sales management is a peculiar field by itself, and it involves various activities that should not be confused or linked to the pricing management. These include for example, everyday arrangement and planning of the sales activities. Fortunately, some of the tools recognized in the sales management field are still applicable to pricing. These are mainly related to the salesperson incentive and reward policies, which share the common ground with the management control literature. A synthesis of the controls that suit into the pricing management is drawn in later chapters 3 and 4. Next, an overview of the management accounting's contribution to the field of pricing is provided.

2.3 Management accounting research in pricing

Typology

Before proceeding, it is essential to acknowledge the terminology used in management accounting. Chenhall (2003, p. 129) states that*: "the terms management accounting (MA), management accounting systems (MAS), management control systems (MCS), and organizational controls (OC) are sometimes used interchangeably"*. He continues that*: "MA refers to a collection of practices such as budgeting or product costing, while MAS refers to the systematic use of MA to achieve some goal. MCS is a broader term that encompasses MAS and also includes other controls such as personal or clan controls. OC is sometimes used to refer to controls built into activities and processes such as statistical quality control, just-in-time management."* This thesis will strictly adhere to this terminology and when the management controls are discussed, they refer to the whole MCS entity, that includes the sub categories of MAS and OC. When MA is discussed it refers solely to the academic and professional field of accounting.

Development of management accounting research in the pricing field

Management accounting has primarily focused on cost accounting as the key information source in pricing management (Guilding et al. 2005; Lucas 2003; Drury 2000). It is worth noting, that cost information derives from the inside of the company and is very narrow and historical in many senses (Laitinen 2011). Johnson and Kaplan (1987) stated that internal (product) cost information is often inaccurate. They also suggested that MAS should produce more comprehensive information. This means that non-financial aspects should also be covered to support strategy implementation in contemporary organizations. With similar approach, Simmonds (1982) argued that while management accountants understand the strategic nature of pricing, their focus has remained in the internal cost-volume-contribution calculations, instead of focusing on the external information like competitor analyses. In his case study, Simmonds (1982) compared cost accounting and strategic management accounting in pricing decisions. He found that the two methods impact pricing in considerably different ways. Finally, he suggested that management accountants should prefer more strategic approaches to pricing to avoid the pitfalls and fallacies in pure cost focused pricing.

In contrast, some accounting literature argues that the impression of cost focused accountants do not match the reality. For example, Horngren (1977) stated that accounting professionals think that costs are driving their pricing decisions, but their true behavior shows that external factors like customer demand and competitor actions overshadow the costs in pricing decisions. This discrepancy is similar to Scapens (1994) and Lucas (2003) findings about the *reality gap* between conventional wisdom and actual business practice.

However, what could explain the cost centered theoretical mindset of the management accountants? Partially, the explanation could be the scientific field's strong origins in cost accounting. This seems to be foreshadowing that some of the contemporary ideas originating in different fields are slowly adapted in the MA literature. For example, the term strategic management accounting (SMA) was not found until the beginning of 1980s by Simmonds. This is rather late, considering the development of other management sciences. However, this does not mean that the practices were not adapted and used in the field (Lord 1996). This creates a thin link between the development of pricing literature in accounting and marketing fields. Marketing academics have only recently started to pay attention into pricing as a comprehensive process (for example Hinterhuber 2012, 2008; Dutta et al. 2003). Perhaps, the accounting academics

are also slowly starting to recognize pricing from other than cost-perspectives. This view is supported by (Laitinen 2011) and by more professional pricing related textbooks, where accounting plays a significant role (for example Smith 2016; Nagle et al. 2014).

Yet, it seems strange that, as the marketing literature seems to recognize the need for control and monitoring in pricing, management accounting has not been interested into this topic. For example, Kaplan (1984) recognized the control perspective in pricing decisions, but the control meant mostly cost control and financial performance management. Some vicinities to the latter are found in the recent literature in the performance management and measurement frameworks (for example, Ferreira and Otley 2009; Otley, 1999; Kaplan and Norton 1992). From these perspectives, the pricing performance could act as an individual key performance indicator (KPI) in a scorecard, budget or in a reward system for example. Chenhall and Langfield-Smith (2007) contributed to this field by examining how performance measurement should encompass wider management purposes, for example in marketing function. This linkage between MCS and marketing is also researched by Foster and Gupta (1994). They analyzed which kind of accounting information marketing managers used to support decision making. The two primary sources were cost information and realized (average) sales prices. Still, the role of the MA was to only deliver information – not to provide a comprehensive set of control.

Only the more recent article *"Management accounting in pricing decisions"* by Laitinen (2011) is one of the rare papers directly related to pricing from comprehensive MAS perspective. He analyzed which kind of information MAS should provide to support pricing decision-making. In contrast to the marketing literatures desire for control in pricing, he stated: *"effective pricing is more planning and less control."* (p. 315). Ultimately, he thought MAS only as an information delivery mechanism, not as a control mechanism. However, his ideas extend Simmonds' (1982) and Foster and Gupta's (1994) ideas that MAS should compile all the external, internal, financial and non-financial data. This could for example mean more specific analyses of the competitors and customers behavior. His conclusion was that the MAS should have a broad scope and it should be forward looking to be effective in supporting pricing decisions. Historical (cost) information should have less weight. Nevertheless, this brief summary seems to confirm that there is a scarce number of pricing related accounting research purely from the MCS perspective. The costs are the primary topic when accounting and pricing are discussed in the same paper.

2.4 Summary

In conclusion, there seems to be little liaison between MA and marketing academics, when it comes to pricing related topics. This is a curios fact because the common determinant in both fields can be considered similar, revenue and profit maximation. For example, Gleaves et al. (2008) examined both accounting and marketing literature with the purpose of finding mutual subjects. They found that customer profitability is the only topic recognized equally often within both fields' publications. In addition, they found that MA seems to ignore some important topics related to pricing, which are for example, customer lifetime value and customer equity. Their conclusion was that there are more and more emerging synergies between these academic fields. This view is also supported by Laitinen (2011). He argues that management accountants should co-operate with marketing people to develop better information to support pricing decisions. In addition, Foster and Gupta (1994) suggests that cross-functional teams of marketing and accounting professionals should be formed to support especially pricing decision-making processes. However, these statements still might not reflect the true reality behind the actual business practices. Especially when considering the idea of *reality gap* by Scapens (1994) and Lord's (1996) findings that perhaps the real practices are not yet caught in the academic research yet.

This is also supported by Merchant et al. (2003) who states that cross-disciplinary research in MA would be beneficial but there are many constraints for conducting it. For example, all academic fields have different paradigms and jargon, which takes time to adapt. Also, often the academic education and faculties are focused on a single discipline and mastering it requires solid focus on it. This can often result into narrow-mindedness of the academics, when cross-disciplinary topics are debated. In addition, it is difficult to publish multidisciplinary articles as the academic journals require more arduous peer reviews from professionals in different fields. This might especially stress the younger academics who are often pressured to publish with more promptly space. According to these perspectives, it is somewhat obvious that the linkage between MA and pricing is mostly cost accounting driven. Cost accounting and cost-based pricing share the common language and paradigms. Extending the MA research to cover the pricing terrain on deeper level would require better understanding of the both fields.
The purpose of this synthesis was to elaborate how MA is linked to pricing from the academic perspective. The lack of cross-disciplinary research is worrying because MA and especially

MCS have much potential to contribute to the pricing practices. The strength of MA as a framework to study this phenomenon is that it provides the essential tools and frameworks for organizational steering. The MCS framework will be discussed more closely in the chapter 4. Next, discussion will focus on the pricing process and why management controls are required in it.

3 Pricing process and the need for management control

"Price setting and price getting require discipline — not luck. Almost any business can improve its pricing performance, provided it approaches pricing in a structured way."

Hinterhuber & Liozu (2012) - MIT Sloan Management review

This section's purpose is to provide a general overview of the pricing as a managerial process and to summarize the key takeaways from the academic and managerial literature. The goal is to emphasize why the management controls are needed in the pricing process. First, we describe the pricing as a concept. Secondly as a strategic process. Thirdly, a brief introduction to pricing strategies is provided. The aim is to highlight the requirements of the MCS design within these strategic contexts. Last section will focus on the pricing strategy implementation and the performance measurement.

3.1 Conceptual orientation to pricing

Chartered Institute of Management Accountants (CIMA 2005) defines pricing as a *"Determination of a selling price of the product or service produced"*. As mentioned earlier, pricing is a complex process, which involves various functions and activities (Laitinen 2011; Monroe 1990). Due to the complexity of pricing, some managers seem to be trying to avoid the topic (Hinterhuber 2004). Yet, pricing should receive an adequate amount of management attention because it is an important tool for strategy execution and profitability optimization. Kotler (2009) summarized the importance of pricing very well by arguing that, price is the only "P" in the marketing mix that generates revenues – others generate costs.

Monroe (2003, originally 1990 and 1979) formed the original pricing conceptualization, which demonstrates the principal boundaries of the pricing (see Figure 2.). Firms' cost structure always sets the limit for the lowest possible price (*price floor*). This means that at least the direct variable cost determines where the companies can remain profitable on product and service level in short-term. From the external direction, customers' perceived value of the firms' offering define the upper limit for the price (*price ceiling*). In practice this means, that if the price exceeds the perceived value of the offering, customers are not willing to pay for it.

The second level of price discretion is defined by the competitive factors, corporate objectives and regulatory constraints. The competitors' pricing decisions usually apply pressure to any firm's prices in any markets. The goal is to define and adjust prices by examining how competitors price their products. The corporate objectives can raise the floor if, for example, indirect costs are to be covered too. The legal constraints can elevate the price floor if regulatory aspects require more inputs to the products and services. In addition, the competition legislation often elevates the price floor. The purpose of it is to prevent monopolies from incurring by not allowing the large firms to push smaller ones out of the competition with extremely low prices.

Between these boundaries, lies the final price discretion range, which latitude varies greatly in different industries and markets. The companies should find the optimal pricing decisions between these boundaries. From the MCS perspective, the goal is to persevere within this range in the optimal pricing points. Ingenbleek et al. (2003) state that the quality of the price ceiling and floor data greatly affect the quality of the pricing process from the pricing strategy definition to the price execution. For the MCS to be effective, it should support the delivery and processing of this information. Most importantly, the MCS should also motivate and control the employees to not deviate from the optimal price ranges.

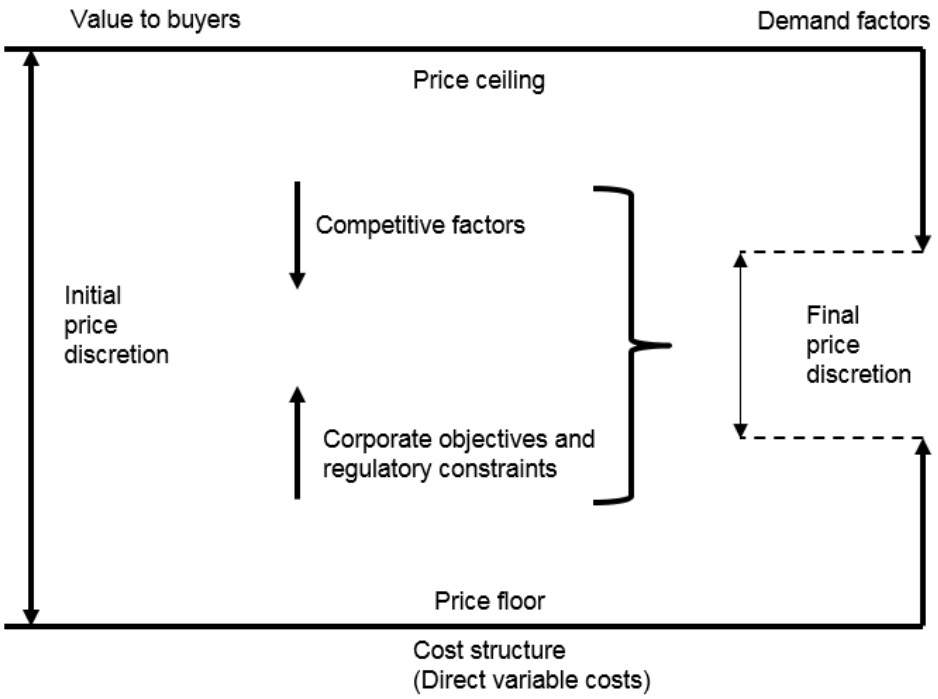


Figure 2. Conceptual orientation to pricing (adapted from Monroe 2003)

3.2 Pricing as a strategic process

The common wisdom in business literature suggests that all the organizational activities and resources should be aligned with the corporate strategy to support the strategy implementation process (see for example: Kaplan and Norton 2006). According to this idea, clear objectives, which are pursued with the pricing practices, should be defined. Various pricing related studies have tried to identify what are the objectives of pricing. According to Lancioni (2005), the objectives of pricing can be for example, total sales volume level, product profit margins or the overall change in realized prices. The common corporate goal is the growth and profitability, but the goal itself does not answer the question of how the companies will reach these destinations via pricing (Noble and Gruca 1999). The objective(s) should be translated into concrete actions and plans, which enable the organization to achieve the ultimate goals. For example, if the company seeks rapid market penetration, the obvious solution would be to set lower prices compared to the incumbent competitors. This concept unwraps the avenue for considering pricing as a strategic process, and especially how it is linked to firms' strategy implementation.

Similarly, to any organizational activities and management processes, separate sections can be identified in the pricing process. For example, Laitinen (2011) divides pricing process into three hierarchic sections. First section is the long-term pricing strategy, which should be aligned with the corporate and market strategies of the firm. This level can be for example based on Porter's (1980) generic strategies where the cost leadership strategy would aim for high volumes by selling at lower prices than competitors. Vice versa strategy would be the low-volume high-price strategy, where the best pricing strategy would be to skim the market for high profits. The second level of the pricing decision making is to define pricing tactics for intermediate term. In practice this means that usually the middle management sets price levels to achieve medium-term organizations goals. For example, a company might lower its prices during the year's last quarter to catch up its whole year revenue target. Finally, the operational pricing means that the sales force is responsible for negotiating the final prices with the customers. (Figure 3. Presents these three hierarchic levels of pricing.)

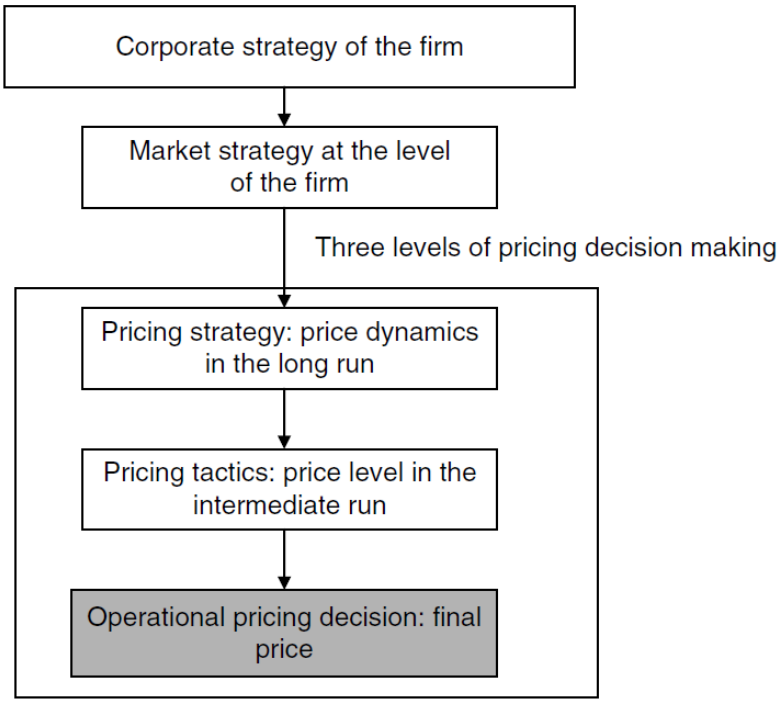


Figure 3. Three hierarchic levels of pricing decision making (Laitinen 2011, p. 312)

Hinterhuber and Liozu (2012) provide a more straightforward pricing process definition. They simply refer to price setting (*price orientation*) and price getting (*price realization*). The price setting refers to the strategical aspects of pricing where the product positioning, pricing strategies and tactics are defined. The price getting means the operational pricing, where the salespersons do the actual selling job with certain prices. Hinterhuber (2018) states that *"organizations don't implement pricing, individuals do*". Their purpose is to bridge the gap between strategic and operational pricing. They highlight that pricing strategies do not turn into successful pricing practices without the capabilities and the processes that ensure the realization of desired prices. The most important price realization capabilities according to Hinterhuber and Liozu (2012) are summarized in the Table 1. The purpose of introducing these capabilities at this point is to illustrate what is required from the sales force to improve the pricing performance. Some of the presented capabilities are direct controls like rules, targets and monitoring processes that clearly belong to the management control field. These controls are discussed in more detail later in this chapter and in chapter 4.

Table 1. The most important capabilities and practices to price realization (Adapted from Hinterhuber and Liozu 2012, p, 72)

• The existence of pricing rules specifying maximum discount levels for any given order size	• The customers maximum willingness to pay and the differential value to customers of the company's product and service offering
• The extent to which these rules and guidelines are actually followed	• The existence of clear target prices before sales personnel enter into negotiations with customers
• The organizational consequences for not following these guidelines	• The amount of pressure (self-imposed or organizational) that pushes sales personnel to conclude unprofitable deals
• The extent to which sales personnel have to justify and ask for approval for deviating from the list prices	• The self-confidence to walk away from unprofitable deals
• The negotiating skills of the sales personnel	• The extent of free services offered to customers to close a deal
• The degree to which sales associates understand a customer's best available alternative	• The systems in place to monitor and communicate price deviations to sales personnel, marketing managers and other decision makers

Next, a brief introduction to pricing strategies is provided. It is essential to understand on universal level what are the key pricing strategies recognized in the literature. This is because the MCS design is highly dependent on the chosen strategies.

3.3 Pricing strategies

The taxonomy of pricing strategies includes various discrete descriptions, with many of them being overlapping and even obsolete in some cases (Tellis 1986). However, the contemporary literature agrees that there are three main categories of pricing strategies (for example, Hinterhuber 2008). The main categories include various sub-strategies and tactics. For comprehensive pricing strategy taxonomy, see Tellis (1986) and Noble and Gruca (1999). The three main categories are:

1. Cost-based pricing
2. Competition-based pricing
3. Customer value-based pricing (Also, simply value-based pricing)

Cost-based pricing

Cost-based pricing strategy has been popular due to its simplicity and ease of management. This pricing strategy is based on a fixed profit margin, which is calculated on the top of the product costs. It relies mainly on cost accounting as a data source, which usually is able to provide necessary data from the company's data systems. The main weakness of this strategy is that it ignores external aspects like customers and competitors. This leads into a weaker profitability compared to other strategies (Simon et al. 2003; Matthew et al. 2002). Additionally, within Monroe's (1990) boundaries, the cost-based pricing strategy can lead into too high prices if the desired mark-up exceeds the price range. Noble and Gruca (1999) found that in markets, where the demand is difficult to estimate, this pricing strategy is most likely used due to it having in built safety mechanism of fixed profit margin.

From the MCS perspective, there is no need for specific or advanced controls because the fixed profit margin ties the prices into certain levels. In this case, the MCS role is to provide cost information for the price formulation. The after sales monitoring consists mainly of traditional budgeting procedure, which then indicates whether the profit margins were achieved or not.

Competition-based pricing

Competition-based pricing considers the external environment and aims to optimize prices by observing competitors' price levels and predicting their pricing decisions. This pricing approach has been dominant in the last three decades with around 44 percent of companies adopting this method (Hinterhuber 2008). The advantage of this approach is that, when the competitor prices are analyzed, companies can find a proper reference or market price for their own products. In addition, the competitor price data is typically readily available and rather easy to gather from online store price lists or product catalogues. This was not the case in industrial B2B markets previously, but now due to the emergence of E-commerce, customers and competitors can easily compare the prices in various platforms. In contrast, Dutta et al. (2003) highlight the complexity of competitor price analysis. They state that if there are various competitors and various product variants, it will be very time consuming to gather and structure all

this information. This is specifically highlighted in the project natured industrial businesses. There rarely is an easy way to define market price for certain products or solutions. Consider finding a market price by evaluating competitor prices for an offshore oil-drilling platform. There certainly are some reference points available, but after all, there is rarely possibility to directly obverse the market prices as a basis for the pricing.

With this pricing strategy approach, MCS' role extends to cover the external competitor and market information. Laitinen (2011) and Simmonds (1982) introduced some of these management accounting methods. For example, decision tree analyses (Simmonds 1982, p. 212), customer, competitor and statistical analyses of the external market (Laitinen 2011). The control mechanisms role would be to then monitor whether the prices remain in the optimal positions (price points) relative to the competitors. However, it is often difficult to define the actual realized net prices of the competitors. For example, if a bargaining offer was lost, it is difficult to analyze what is the true reason behind the loss. Perhaps the price was too high due to too strict control over the price level. On the other hand, it could have been any other non-financial reason. This makes it extremely complicated to design an efficient MCS because it is not always about the competitor relative price position that defines the final purchase decision within this pricing strategy approach.

Customer-value based pricing

Customer value-based pricing strategy has gained much attention recently. It has been described as superior to any other pricing approaches (Docters et al. 2004; Ingenbleek et al. 2003). Various researchers (Hinterhuber and Liozu 2012; Monroe 2003; Cannon and Morgan 1990) have highlighted especially the profit potential of the value-based pricing.

Value-based pricing strategy is based on customers' value perception of the products and services. The goal is to estimate customers' willingness to pay the highest price according to their value observation. It is often difficult to evaluate this, thus, making the strategy complicated to implement and execute. Surveys show that only 15 - 20 percent of companies are adopting this strategy (Hinterhuber 2008). Hinterhuber (2014) argues that one of the implementation challenges is related to the degree of control required over the pricing process. According to him, executing value-based pricing requires strict discount rules. This is because the realized prices should not deviate (considerably) from the list prices. Deviations should only be allowed in

special cases, which can be strategically important customers and very large orders. Hinterhuber continues that the inconsistent discount issues are more likely to emerge if the salespersons compensation is based on revenue instead of profit. If this is the case, the sales staff is more tempted to give larger discounts to close deals.

Supporting Hinterhuber's views, Liozu (2015) and Nagle et al. (2014) state that executing value-based pricing requires more complex control system, where the incentive and reward systems importance is highlighted. In addition, this pricing approach requires that the incentives motivate to sell value and solutions instead of simply products. Often also, a cultural change is required to sell the strategy within the organization (Hinterhuber 2008).

In addition, it is worthwhile to seriously consider what MA's role is in evaluating the customers' perceived values. Also, which of the organizational functions, is the best at evaluation the customers' willingness to pay anyway? Generally, marketing management has been, with the support from other functions, responsible assessing the perceived values (Hinterhuber 2008). Despite of the responsible function, the value assessment can also be reflected on Foster and Gupta's (1994) and Kaplan and Johnson's (1987) concepts of the MA's role in developing more relevant information. In practice, the value assessment could be part of the MCS design. However, at this point, it is outside of this thesis scope and it will not be discussed in deeper level. (For a brief overview, see Harvard Business Review 2016)

Summary

In conclusion, it is essential to understand the pricing strategies impact on the control system design. Cost-based pricing requires mainly cost information for price setting and the control aspect is straightforward with traditional budgeting and financial performance follow-up. Competition-based pricing requires more external information about the markets and competitors. Value-based pricing requires (perhaps) less information delivered by the MA, but it requires extensive control over the pricing process. The case company is shifting more focus to the competitor- and value-based pricing strategies, but it does not mean that the cost-based pricing will be completely abandoned. So, the control mechanism should operate to support various pricing strategies. This overview's purpose was to provide the reader an acumen of the different pricing strategies influence on the MCS design. Finally, Table 2. presents a summary of the pricing strategies.

Table 2. Alternative approaches to pricing (Adapted from Hinterhuber 2008, p. 42)

	Cost-based pricing	Competition-based pricing	Customer value-based pricing
Definition	Cost-based pricing approaches determine prices primarily with data from cost accounting	Competition-based pricing approaches use anticipated or observed levels of competitors as primary source for setting prices	Customer value-based pricing approaches use the value of a product or service delivers to a predefined segment of customers as the main factor for setting prices
Examples	Cost-plus pricing, mark-up pricing, target-return pricing	Paraller pricing, umbrella pricing, penetration/skim pricing Pricing according to average market prices	Perceived value pricing Performance pricing
Main strength	Data readily available	Data readily available	Does take customer perspective into account
Main weakness	Does not take competition into account Does not take customers (and customer willingness to pay) into account	Does not take customers (and customer willingness to pay) into account	Data are difficult to obtain and to interpret Customer value-driven pricing approach may lead to relatively high prices – need to take long-term prfotability into account Customer value is not a given, but needs to be communicated
Overall evaluation	Overall weakest approach	Sub-optimal approach for setting prices: appropriate for commodities (if – and only – if products/services in question cannot be differentiated	Overall best approach, direct link to customer needs
MCS features	Cost accounting driven	Must contribute external information	Specific control required to retain stable discount levels

3.4 Implementing pricing strategies

"Value leakage often occurs at the level of sales teams as they attempt to realize annual volume targets and qualify for annual bonuses by extending discounts to customers."

Hinterhuber (2008; p. 48)

After the principal long-term pricing strategies have been decided, companies should start to prepare a formal pricing management process. During this stage, the formulation of the MCS should naturally also take place. Lancioni (2005) suggests that for the companies to implement pricing strategies effectively; a formal comprehensive pricing plan should be developed. He states that *"Developing a pricing plan requires that a company commit to a set of objectives,*

a course of action, an operational strategy, and a set of control and review procedures dedicated to making the management of its pricing process a success." (p. 178).

Pricing organization

First, a formal function fully dedicated to pricing should be established (Lancioni 2005). According to Smith (2016) and Lancioni (2005) the pricing functions role is to gather and combine information from various sources. The key challenge in establishing this interdependent organization is the concatenation of various managerial layers and functions (Lancioni 2005). Homburg et al. (2012) suggests that for the best pricing performance, marketing, sales and finance should be the key functions along the pricing itself to be included in this cross-functional team.

According to Smith (2016) and Lancioni (2005), the key responsibilities of these functions should be the following: Marketing's role should be to manage all the four Ps in the marketing mix: product, promotion, place and price. Sales function should provide insights from the customers including how they would react to new discount policies for example. Sales is often the most influential member of the pricing organization (Smith 2016). It might often be difficult to cope with their belief that profitability is generated by increasing sales volumes by extending discounts and not the other way around (Smith 2016; Hinterhuber 2008). Finance should analyze the profitability impacts of pricing decisions and deliver the cost information. All the other functions should contribute to the pricing decisions if necessarily needed. The simplified concept of the pricing function is depicted in Figure 4.

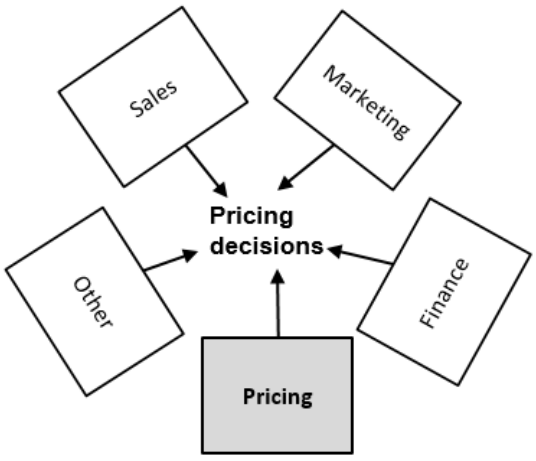


Figure 4. Pricing organizations role (Adapted from Smith 2016, p 101)

Another remarkable issue is how rigorously the pricing function should intervene the pricing process on the operational level. Homburg et al. (2012) categorize the pricing authority dispersion into vertical and horizontal levels. *Horizontal dispersion* refers to the pricing functions role as an integrative function, which gathers information from other functions. This kind of dispersion is essential in contemporary, large and decentralized organizations because a single function can rarely operate successfully in isolation. This is especially highlighted in the strategic aspects of pricing. This means for example, defining pricing strategies, list prices, price guidelines, discount policies and monitoring the pricing performance. The *vertical delegation* of pricing authority simply means how much freedom the sales staff has over their discounts and rebates without having to ask approval from their managers.

Various studies (see for overview Homburg et al. 2012) have found that in some environments decentralized pricing units are more effective. For example, if the salespersons have better knowledge of their sales environment than the central managers do. In addition, in B2B environments, the speed of decision-making is especially highlighted. This suggests that decentralized pricing is more effective because the sales force can act quickly based on their own evaluation. High degree of vertical delegation often leads into high discounts and generally improves the sales performance measured in volume (Homburg et al 2012). On the opposite, low level of vertical delegation can hinder the overall sales performance measured in volume but increase the profitability by decreasing the discounts. Homburg et al. (2012) finally conclude that a balance between the centralized and decentralized sales authority dispersion should be discovered for optimal pricing and sales performance. Next, the question is who should contribute to the pricing decisions and at which level?

Decision rights

Nagle et al. (2014) state that a formal pricing organization itself does not add enough formality to the pricing decision making process. They suggest that formal decision rights should be allocated to managers involved in the pricing process. This is made to ensure that various managerial layers have the possibility to contribute to the decisions. Nagle et al. (2014) provide four categories for decision rights, which are depicted in Figure 5.

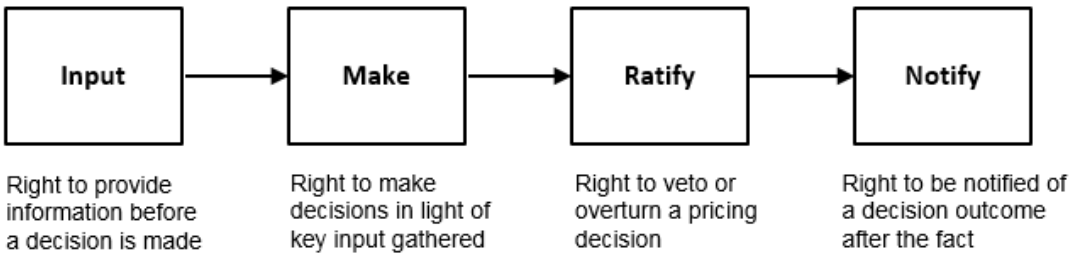


Figure 5. Types of decision rights in pricing process (Adapted from Nagle et al. 2014, p. 165).

Input rights are provided to various managers who should contribute information to support the pricing decision. The purpose is to gather high variety of information from various sources to make well justified decisions. The *make rights* should only be allocated to few individuals or committees. The purpose is to make a clear liability distribution when pricing decisions are made. This makes an incentive to follow the pricing strategies and choices and to ensure that the strategies are implemented properly. The *ratification rights* mean that senior management can or should ratify pricing decisions and to make sure they are not conflicting with broader organizational targets. Lastly, the *notification rights* mean that members of the organization, who will get affected by the pricing decisions should be notified. In practice, this means that for example, business development function can build more robust business cases when they understand where the pricing function aims to steer the prices.

Step by step process and discount variance policies

Nagle et al. (2014) continue that after the organization structure is set up and decision rights have been defined, a formal step by step pricing process should be structured. Sodhi and Sodhi (2005) also suggest this in their HBR article *"Six Sigma Pricing"*. They introduced a case study about a company applying the Six Sigma ideology into the firm's pricing process. This included application of formal decision rights and responsibilities in the pricing actions flow. In practice this meant that the sales personnel had to get approval from the pricing function if the discounts exceeded certain ranges. To supervise the sales forces compliance to the discount policies, a formal monitoring process was implemented. If in some cases, the sales staff had promised a discount without prior approval, they would be addressed by the management and receive punishments occasionally. However, often this kind of extremely formal and tightly controlled

process could be detrimental for the overall sales and pricing performance (Homburg et al. 2012). Against this view, in the case study the outcome was positive. Sodhi and Sodhi's approach significantly reduced the friction between the sales and pricing functions. (For detailed overview of this pricing process by Sodhi and Sodhi 2005, see Appendix 1.) This outcome provides some evidence that even very high levels of control over the pricing process can result into positive outcomes. However, how should the discount ranges be defined?

Hinterhuber (2008) and Smith (2016) suggests that clear guidelines to sales discounts should be established. The simplest way is to either allow them or to not allow any discounts. However, optimally companies should find a range where they can segment the market to capture most of the value. This means setting the maximum and minimum prices between the expected target prices. In practice, these can be called *price corridors*, which also mean the final price discretion in Monroe's (2003) framework (Figure 2.). Generally, profitability can be improved if the discount restrictions are tightened (Homburg et al 2012). However, Hinterhuber (2008) argues that in some special cases the salespeople should retain their discount authority. For example:

- If the sales force understands better the customers' willingness to pay and the willingness varies greatly between customers.
- If the sales personnel possess phenomenal negotiating skills
- If the products and services are extremely complex

Incentives and rewards

Incentives and rewards seem to be one of the most critical elements in successful pricing management. For example, Hinterhuber (2018, p. 2) states: *"Pricing strategies live and die in the hands of sales managers. Incentive systems play a role, probably even an important one, in pricing strategy implementation"*. This is especially highlighted in the value-based pricing strategy as stated earlier. Nagle et al. (2014) support this view by stating that if the compensation is based solely on the revenue, it does not motivate the sales persons to spend more time selling value and to negotiate higher prices. Also, Marn and Rosiello (1992, p. 93) illustrate the issue with purely volume based reward systems. They state that: *"..a 5% decrease in price*

for instance, will cause only a 5% decrease in a salesperson's compensation. But assuming average company economics, it will engender a 60% operating profit decrease for that transaction."

The importance of incentives and rewards is also emphasized and combined to the decision rights by Homburg et al. (2012). They state that: *"(vertical) delegation between management and sales person is contingent on the reward systems of the firm and specifically on the emphasis of margin-based incentives for salespeople. Vertical delegation is more beneficial when firms emphasize margin-based variable pay components that align the goals of the salespeople to trade off effort for price discounts"* (p. 63).

Nagle et al. (2014) and Hinterhuber (2008) suggests that reward systems should be flexible and simple to manage. They state that often companies tend to implement too complex incentive schemes. However, in some cases changing the incentive policies is often difficult and time consuming. This can cause the companies not to adjust them at all. As a solution, Nagle et al. (2014) state that if there is not a possibility to adjust the incentives, formal discount rules and limits should be applied and monitored constantly.

However, there are some remarkable issues related to the formal rules. For example, if there is a fixed limit or pricing rule that is not aligned with the organizations performance metrics, incongruous situations can emerge. For example, if there is an absolute amount of gross margin to be achieved, but the incentives are not aligned, the sales staff will try to figure out ways how to get the high-volume deals with large discounts approved. They can always argue that these are special cases and require a higher discount. This strongly implicates the need for alignment between incentives, discount policies and the pricing strategy. For example, if sales volume is pursued, a lower percentage commissions should be offered. If the sales quality e.g. building a new customer relationship is the goal, a higher remuneration should be offered. This means that the incentives will automatically encourage the sales persons to maximize their own and company goals. Finally, Sodhi and Sodhi (2008) state that financial incentives and penalties should be aligned with the realized discount percentages. The closer the net price is to list price, higher reward and vice versa. Next, an introduction to the pricing performance measurement will be provided.

Pricing analytics and performance monitoring

After the formal pricing controls have been defined and implemented, it is time to start measuring the pricing performance. The purpose is to make corrective actions to the pricing strategies or to the control system itself, if they are not delivering the desired results. According to Lancioni (2005), the control and review process should be comprehensive and include for example, product and customer margin levels, total sales targets, and market share positions. However, there are various pricing specific analytics tools which are briefly introduced next.

Bell curve analysis

The most common analysis of the price realization is a classical statistical bell curve analysis, which shows how much the realized net prices differ from the list prices (Sodhi and Sodhi 2005). The example shown in Figure 6. shows that the larger the transaction, the larger the discounts tend to be. This is basically an extension to the earlier illustration of the unclear discount policies in Figure 1. The idea behind this analysis is that the discounts should correlate between the transaction sizes. The weakness of this approach is that it does not elaborate where the detailed revenue leaks exist. However, this is an excellent tool for analyzing the big picture of the pricing performance.

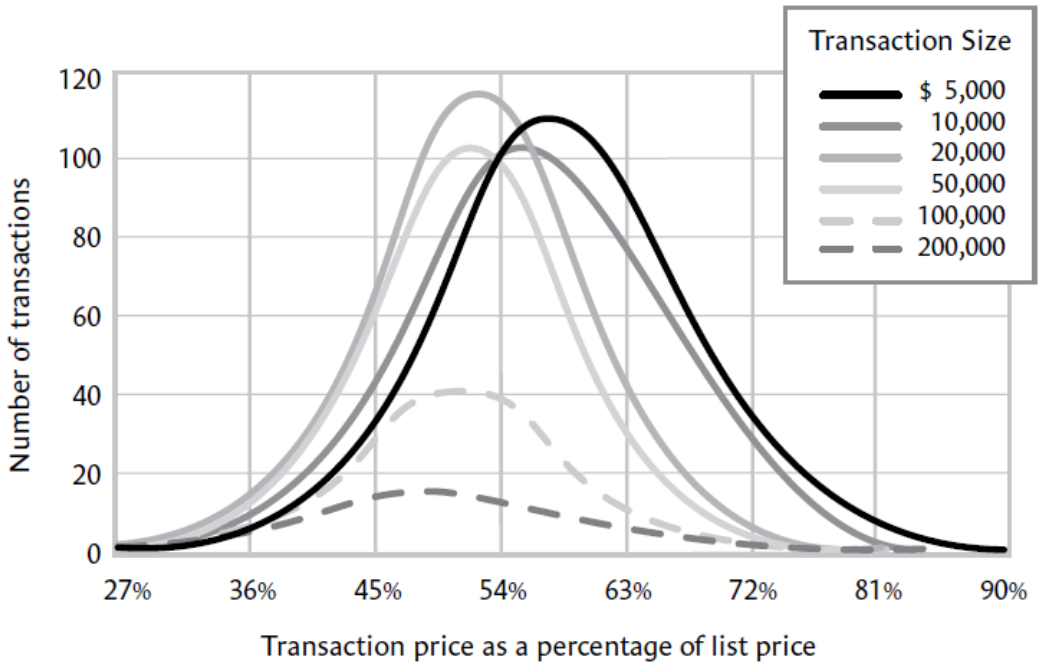


Figure 6. Bell curve analysis of the relation between transaction size and discount. Adapted from Sodhi and Sodhi (2005)

Price waterfall analysis

Marn and Rosiello (1992) suggest that price waterfall analysis could be utilized to identify where the revenue leaks exists. An overview of this analysis is depicted in Figure 7. All the components express a revenue leak. The *pocket price* shows the net price after all discounts are netted out. According to Nagle et al. (2014) the point of this analysis is to break down the whole discounting process. This is in some cases more valuable than just comparing the list prices and realized net prices. The reason is that this analysis lets the management to see if sales staff tries to hide the discounts in extra services for example. Companies do not often monitor these concessions and this can result into the sales people to extend these giveaways to get deals closed. In conclusion, it might not be sufficient to only look at the invoice prices, which could be misleading. Instead, the whole array of discounts should be analyzed to spot any major discrepancies. For example, the volume bonuses and freight charge giveaways should be monitored closely to see how often and which ways they are used by the sales force.

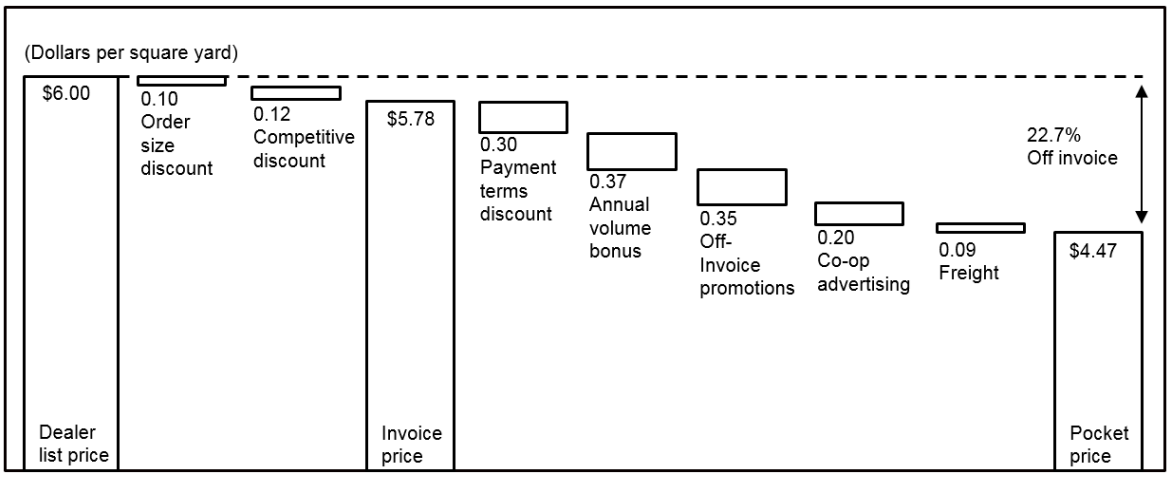


Figure 7. Price waterfall analysis (adapted from Marn and Rosiello 1992, p. 86)

Price banding

In addition to the price waterfall analysis, Nagle et al. (2014) suggest a price banding approach to analyze how well the customers are staying within the intended pricing or discount ranges (see Figure 8.). It is a statistical analysis, which groups similar customers into bands based on their qualities. The factor can be size of the orders, sales channel, and business type for example. After the customers have been categorized into band, a regression analysis must be conducted. The analysis should then be discussed with the purpose of finding the reason behind

variances. The purpose of this analysis is to reveal which customers are paying more or less than the average customer within this band. The reason behind the variance can for example be centralized and more professional buying organization that can push the prices down. Nagle et al. (2014) even point out one special case where a corrupt sales representative was taking bribes for giving sales discounts and was caught by this analysis. On the other hand, if some customers are paying significantly higher prices than the fair price within the band would be, the customers can feel discriminated if they discover other customers price levels. Finally, the optimal solution is to set a *price corridor,* again similar to Monroe's (2003) price discretion range where the (customer) specific prices can be freely set in the fair price range.

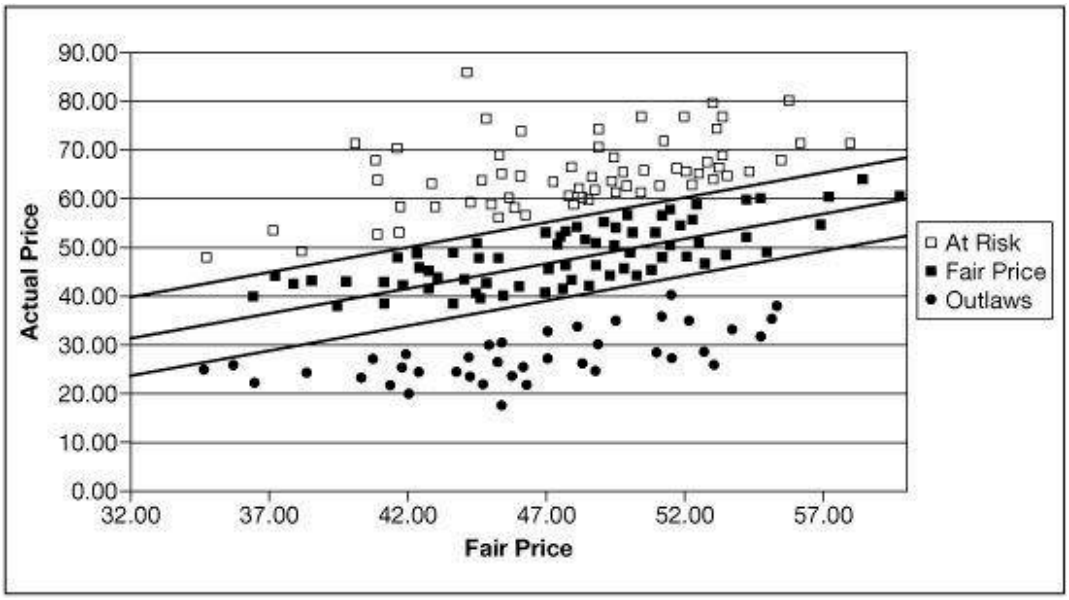


Figure 8. Price band analysis (Adapted from Nagle et al. 2014, p. 172)

3.5 Summary

The pricing strategy implementation can be summarized in the following framework (Figure 9.) Cost structure, competition and legal constraints form the boundaries where within companies should manage their pricing process. When these boundaries are understood, pricing strategies should be defined. The strategy implementation is then supported by two cornerstones that consists of the control mechanisms. The organizational structure, decisions rights and processes form the first cornerstone. The second one is formed by the motivation, data analytics, performance measurement and incentive policies.

Figure 9. The foundation of pricing strategy implementation (Adapted from Nagle et al. 2014, p. 160)

This introduction to pricing as a strategic process intended to show the pricing process flows from planning to execution. The focus was to introduce which kind of strategy implementation controls are presented in the pricing literature. These controls were mainly extracted from the pragmatic pricing textbooks (mainly Nagle et al. 2014), which were then enforced by smaller components from the other pricing articles.

As summarized in the chapter 2. the management accounting literature provides more detailed academic and pragmatic overview of the management controls. These controls are discussed in the next chapter and the objective is to form a synthesis between the pricing control framework with the management accounting framework. Finally, this combined framework will act as the basis for the case recommendations.

4 Management control systems

"Management control is the process by which managers influence other members of the organization to implement the organization's strategies."

Robert N. Anthony - The Harvard Business School Press, 1988

As the previous chapter summarized, there is a clear need for management control in the pricing process. In this section, an introduction to the management control systems will be provided. The focus will be on introducing a pragmatic set of controls that can enforce the pricing literature's control mechanisms. Finally, a theoretical framework is constructed to act as a foundation for the case recommendations.

4.1 Overview to MCS

The need for MCS has origins in the principal-agency theory. This theory suggests that the agents might operate in their self-interest, when they should instead operate towards the principals' goals. Jensen (2000) defined this relationship as where the principals hire agents to conduct activities in their interest, and at the same time, the principals delegate the decisions authority to the agents. Sharing similar view, Merchant and Van der Stede (2007) argue that when employees are conducting everyday activities in organizations, their behavior should be controlled. They continue that if the employees would naturally operate as in management's interests, MCSs would not be required. In the pricing context, this could be described as that the top management defines corporate and market strategies of the firm. Then the lower level managers are responsible for defining suitable pricing strategies and tactics. Finally the operational level sales should implement the pricing strategies. However, without proper set of control mechanisms any of these layers can fail to successfully operate towards the desired goals. From this viewpoint, there should always be goal congruence between the management and employees. In practice this means, as Malmi and Brown (2008) state that the MCS role is to align individual's activities with the organizations strategy and objectives.

The main idea of management control is illustrated in Figure 10. This is Based on Merchant's (1982) concept that depicts the relation between organizations' (strategic) goals, management

decisions (inputs) and results. The control system then measures the variation between the desired goals and results. If these do not match then corrective actions (intervention) should be taken.

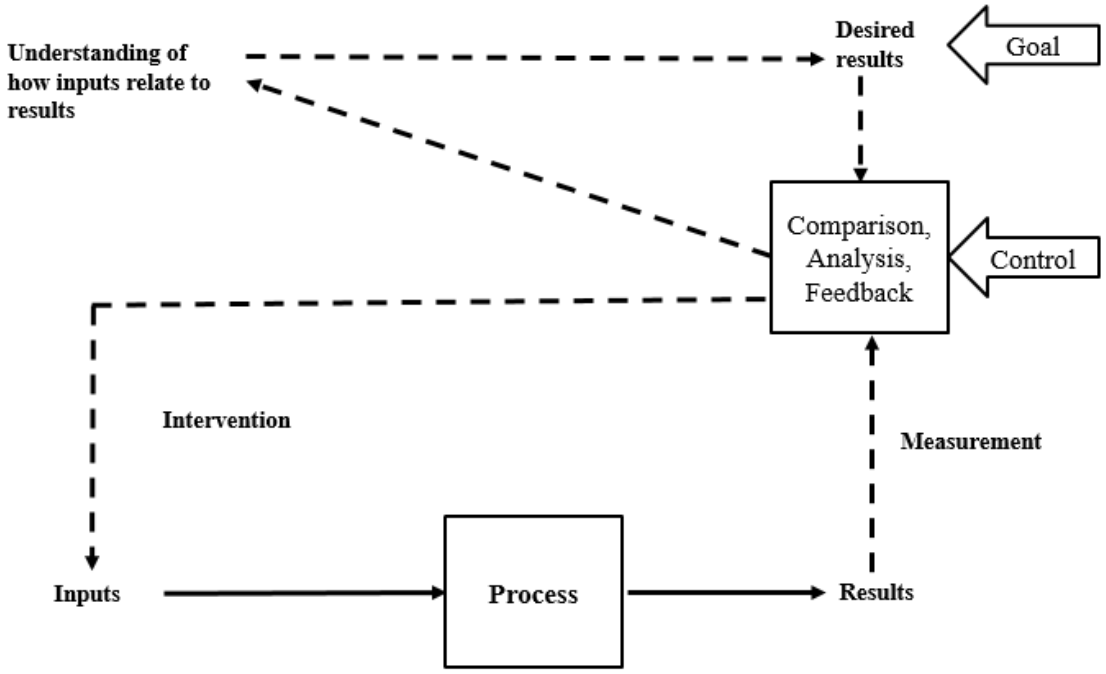


Figure 10. The feedback control model with learning (adapted from Merchant 1982, p. 51)

One of the essential characteristics of MCS is that it is not a one-way loop where management takes actions, analyzes results against predefined standards and goals, and finally takes corrective actions if necessary (Merchant 1982). Instead, MCS and even the strategy should be shaped by the learning and feedback process (Kober et al. 2007). This relation is illustrated in Figure 10. as the feedback process and understanding of how inputs relate to results.

For the case company this is an important aspect because there has not been any form of pricing specific MCS. This means two things. First, it might be difficult or even impossible to design a perfect control system on the first try. So, the controls are adjusted after the initial results and feedback begins to flow in. Secondly, MCS also supports the company to shift the pricing strategies. According to Simons (1994), the renewed strategies should be sold to the employees and implemented with the assistance of the improved MCS. Simons (1994, p. 187) also stated that: *"..management control systems appear to be vitally important in building credibility and selling a new strategy to various constituents."*. Simon's findings showed that MCSs are used

to overcome organizational inertia by formalizing and communicating the strategic boundaries and by linking bonuses to financial targets for example. This is aligned with the previous findings in the pricing literature that proposes that different pricing strategies require suitable MCS. This can also be linked to the contingency theory perspective where MCS have been studied (see for example, Fisher 1998 and Chenhall 2003). The key argument within the contingency approach is that no universal standard MCS design exists (Malmi and Brown 2008). Firms are unique and possess distinct resources. They also operate in various industries and environments. In addition, the MCS design varies within the organizational functions (Chenhall and Langfield-Smith 2007). Partially, this has resulted into various frameworks that have slightly different approaches to MCS, both in academic research and in practice. Next, these frameworks will be discussed, and the best fitting will be chosen to support the case solution.

4.2 Management control frameworks

Various different frameworks for management controls co-exists in the academic and managerial literature. Simon's levers of control (LOC) framework is one of the most well-known (see for an overview Simons 1995). It is known for its specific focus on strategy implementation. However, the framework has been criticized for being too vague and lacking concrete substance (Tessier and Otley 2012). Another more concrete framework is the performance management field introduced by Otley (1999). This framework focuses on the organizations performance measurement aspects and the outcome controls. The purpose is to evaluate which metrics are most suitable in certain contexts. The performance metrics within this framework cover both financial and strategic aspects. The common tools are traditional budgeting, economic value added (EVA) and Balanced scorecard (BSC) (For overviews see Ferreira and Otley 2009 and Otley 1999). Finally, one of the most comprehensive and pragmatic control framework is provided by Malmi and Brown (2008). Their idea of management controls as packages is chosen to support the case study because it provides a wide set of controls. At this stage, it would not be sufficient to focus on too narrow set of controls like in the performance management framework. Focusing too deeply into the challenges with one system like budgeting, incentives or even organizational structure would not provide sufficient set to begin the pricing management development. Next the package framework is discussed and compared to the pricing specific controls introduced in the previous chapter.

Management controls as a package

Malmi and Brown (2008) proposed an idea that MCS should be researched as comprehensive packages. Earlier MCS research had focused on single practices and tools that operate in isolation. This meant that, for example, budgeting was thought as an independent tool, which was not integrated to other practices like reward systems. Malmi and Brown combined all the identified controls from *cultural (behavioral controls), strategic planning controls, systematic cybernetic controls, rewards and compensation and administrative controls* into a single package. The framework is depicted in the Figure 11. It is essential to understand that each element of the package can have different weight in different context (Malmi and Brown 2008). For example, in the case section, less emphasis will be placed on the cultural and planning controls. Instead, cybernetic controls, reward and compensation controls and administrative controls will be the key elements in the control design. However, next all the control categories are briefly presented and compared to the pricing literature.

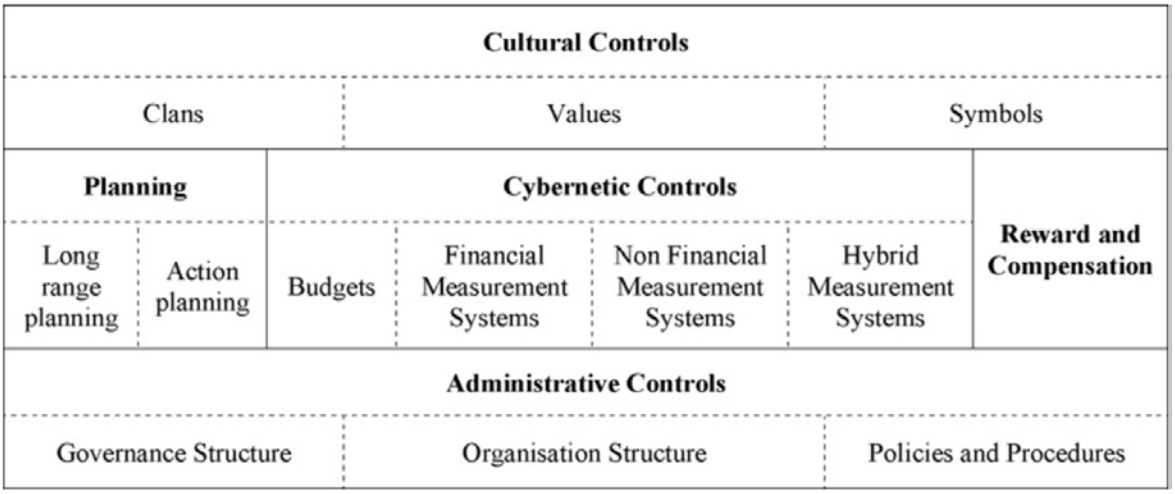


Figure 11. Management controls as a package (Malmi and Brown 2008, p. 291)

Cultural controls

This set of controls consist of values, beliefs and the social norms of the organization. Cultural controls can be intentionally established by the management to control employees' activities, or they can be out of the management's control (Clegg et al. 2005, cited by Malmi and Brown 2008). Malmi and Brown (2008) state that cultural controls operate on three levels. First, organizations might intentionally recruit employees who possess certain individual values. Secondly, employees might adapt organizational values when they are socializing and

adapting to the organization. In third situation, employees might adapt organizational values if they are regularly exposed to them, even if they do not personally believe in them.

Compared to the pricing literature, some academics state that organizations can adapt "a culture of pricing" (Hinterhuber and Liozu 2012; Hinterhuber 2008). This means that organizations can adapt a pricing-oriented culture that promotes attention to pricing in general. For instance, if the case firm happened to possess extremely strong pricing oriented culture, perhaps the challenges presented in this thesis would be obsolete. However, because Malmi and Brown (2008) state that cultural controls are often slow to change, we will exclude these controls from the case. The purpose is not to derogate the importance of cultural controls in effective pricing management. Still, nor the pricing or the MCS literature directly suggests how the cultures should be changed, hence there are no instruments provided by these fields.

Administrative controls

According to Malmi and Brown (2008) administrative controls steer and monitor employees by defining how individual tasks, actions and processes should be done. These controls include the organization structure, governance structure and procedures and policies. These controls can be linked to the pricing literature by which degree the formal (pricing) authority and decision rights should be dispersed across the organization (Nagle et al. 2014; Homburg et al. 2012). Also, the pricing organization's role horizontally and vertically falls into this category of controls along with the formal pricing processes recommended by Sodhi and Sodhi (2005). All these controls are included in the case study framework due to their importance and recognition in both fields of literature.

Planning controls

Planning controls are ex-ante in nature (Flamholtz et al. 1985, cited by Malmi and Brown 2008). These controls define the future goals and the specific activities for achieving the goals. Also, these controls should commit the employees into the defined plans. These controls can be categorized into long- and short-term controls (Malmi and Brown 2008). Action planning is mainly considered of tactical focus in short-term, usually less than 12-months. The long range planning takes strategic aspects into account and extends the planning horizon to medium- and mid-terms.

From the pricing perspective, defining pricing strategies in long-run falls into the category of long range planning. Defining pricing tactics in short-term is considered action planning. As these controls are mainly considered of the pricing strategy formulation, they will receive less attention in the case. The importance of feedback by Merchant (1982) in the control system is mentioned to highlight that the MCS will help the company to adjust the strategies and controls in the future (Kober et al. 2007). In summary, the planning controls should be part of the MCS in the future.

Cybernetic controls

This set of controls can be based on the Merchant's (1982) concept of comparison, analysis and feedback control. The controls included in this category are budgets, financial measurement systems, non-financial measurement systems and hybrid measurement systems.

Despite of its many flaws, budgeting is perhaps one the most widely used organizational control mechanism. Budget is a broad and complete technique that plans the acceptable level of behavior and compares the outcomes to these plans (Malmi and Brown 2008). Budgeting is financial in nature, but it should be separated from the financial measurement systems because the latter mainly consists of individual metrics like EVA (Malmi and Brown 2008). The common issues related to budgeting are for example: budgeting is time consuming, rarely strategically oriented, it causes barriers to change, and it focuses on cost reductions instead of value creation (Hansen et al. 2003; Jensen 2003). Budgeting also might motivate members of the organization to lie by proposing targets that are lower than what they could potentially achieve to secure effortless bonus thresholds (Jensen 2003). Budgeting is not directly discussed in the pricing literature; hence the accounting literature provides great contribution to the Nagle et al. (2014) framework. Financial measurement systems can be categorized into the pricing specific analytics tools. Thus, from this sense the pricing literature offers pragmatic set of tools for the case study.

Non-financial measurement systems are not the first ones emerging when the pricing performance is discussed because the impact of pricing is mainly financial. However, the importance of these metrics should still be recognized because purely financial metrics are rarely sufficient to measure strategic performance comprehensively enough in contemporary organizations. For example, Otley (1999 p. 363) stated that *"..the discipline of economics*

does not provide a sufficiently rich picture of the internal activities.. to provide reliable guidance to the designers of management control systems". As an example, an organization could base its strategy and objectives on extremely satisfied customers. Then (low) price could be one of the elements that result into this, and the customer satisfaction would generally be a non-financial metric. Despite of this, these controls are left out of the scope because the non-financial metrics should be more beneficial in the general sales management at this stage. In the future, perhaps the pricing function should also utilize these measures if possible.

An example of the hybrid controls is the balanced scorecard (BSC) developed by Kaplan and Norton in 1992. BSC is a comprehensive, widely adapted MCS that contains both financial and non-financial measures (Malmi and Brown 2008). BSC possesses the relevant qualities that could be usable in the pricing process. For example, a separate pricing strategy scorecards could be implemented in some cases. However, because BSC is a comprehensive strategically oriented MCS, it exceeds the requirements and scope of this thesis.

Reward and compensation controls

Malmi and Brown (2008) state that rewards and compensation are often linked to other, mainly, cybernetic controls, but are still considered as individual systems. It should be acknowledged that organizations reward employees in other than financial ways too. For example, by providing appraisal and retaining employees (Malmi and Brown 2008). This set of controls has large influence on how much attention, time and focus the organization's members devote to certain tasks. This was also highlighted in the pricing literature as how much time and effort sales employees spend on negotiating higher prices and selling value. These controls received significant attention in the pricing literature, but less concrete illustration of compensation scheme design was provided. The MCS and management accounting literature in general provide more detailed studies and practical illustrations of the incentive scheme design (see for example Jensen 2003). However, the concept is generally similar in both fields of literature and as the importance is recognized, these controls will be an essential component in the case study.

4.3 Synthesis

The case study solution will be based on a synthesis formed by the frameworks from the pricing (Nagle et al. 2014) and the MCS literature (Malmi and Brown 2008). The synthesis of these frameworks is presented in Table 3. The frameworks look surprisingly similar but there are various technical imperfections in both. These were mainly discussed in the previous section but some of these should be elaborated. For example, the pricing literature ignores budgeting and provides less pragmatic tools for reward and compensation control design. On the opposite pricing framework provides more specific pricing analytics tools, detailed illustrations of pricing process engineering and decision right dispersion. However, it should be acknowledged that on general level the frameworks include similar integrities that are not discussed in detail. For example, the presented control framework includes decisions rights in the organization structure category, but they are not discussed or elaborated in detail because they are generally thought be axiomatic, whereas the pricing literature goes deeper in examining these fields. In summary, these frameworks still complement each other at least technically in the previously discussed ways.

Table 3. Synthesis of the presented control frameworks (the color code illustrates that the controls belong into a similar category)

<table>
<tr><th>Pricing literature (Nagle et al. 2014)</th><th>Management control literature (Malmi and Brown 2008)</th></tr>
<tr><td rowspan="2">Organization
• Structure & Decision Rights
• Processes</td><td>Administrative Controls
• Governance Structure
• Organization Structure
• Policies and Procedures</td></tr>
<tr><td rowspan="2">Motivation
• Data/Analytics
• Metrics and Incentives</td><td>Cybernetic Controls
• Budgets
• Financial Measurement Systems</td></tr>
<tr><td>Reward and Compensation</td></tr>
</table>

The purpose of this section was to briefly introduce the theoretical background of the MCS and the different frameworks. Finally, the emphasis was to form a synthesis of the both literatures to form a broad but also a simple framework that covers the crucial aspects in pricing management. Next, the case study section begins with an overview to the company and the current management controls.

5 Case study – An overview of the current state

This section begins with a general overview to the case company, which includes the description of offering, competitive landscape and sales channels. After the overview, the current design of the MCS and the pricing process will be introduced. Finally, the challenges with the pricing performance are analyzed with the purpose of finding the antecedents for them.

Before proceeding, the reader should acknowledge that pricing is an extremely sensitive parameter for companies in general. To honor this and mitigate any unwanted disclosures, it was agreed to withhold the company's identity from the public. Instead, company will be referred as ***Eauco***, an acronym for European Automation Company.

5.1 Case company overview

Eauco is a part of a publicly listed European multinational company, which has revenues of over 30 Billion USD and over 130 000 employees. The company manufactures and sells industrial automation equipment for voluminous number of B2B customers in various industries.

Offering

Eauco has an extensive product portfolio, which consists of local market and industry specific variants. The products vary from simple off-the-self products to complex subcomponents of larger automation solutions. The products consist of a base unit which can be upgraded with various additions. Eauco has around five major product lines but considering all the possible accessories, the number of different product variants is measured in hundreds. Due to this, it is complicated to define optimal pricing strategies for each product. It should also be understood that majority of the product costs are defined in the research and development (R&D) phase in the product life cycle. This means that the product costs can be assumed steady and they do not vary significantly between customers. Due to this, there is no specific cost to serve for the customers. This simplifies the thesis because no detailed cost analysis is required. This means that the profitability impact can be measured on the gross-margin level, which is solely impacted by the realized net price.

Competitive landscape

Eauco's market competition is constantly tightening as new competitors are entering the markets. There are few large-scale globally operating incumbent competitors, who along with

Eauco dominate the market shares with Eauco holding the largest portion. This means that Eauco as a market leader often makes the first pricing decision and others follow. The smaller competitors are constantly entering the market and possess a threat especially with lower prices and lower product quality. This is possible because the products are commoditizing, and customers are becoming more cost sensitive. This is partially the reason why cost-based pricing strategies are no longer optimal. As the price leader, Eauco must be careful with the pricing decisions. For example, rapid increase or decrease in prices levels could lead into aggressive competitor reactions and trigger price wars in worst case. Considering this, the change in the pricing policies should not be an impetuous maneuver, but instead a carefully planned and clearly structured process.

5.2 Sales channels

Eauco distributes its products to markets via internal and external channels, directly and indirectly. This is called *multi-channel strategy*. The channels can be categorized into four segments, which are *direct sales to end customers, distributors, original equipment manufacturers (OEMs) and project sales*. In addition, there are internal sales via other Eauco's divisions, business units and service channels. Due to their low volume and transfer pricing focused sales process, we will leave them out of the scope in this thesis. An overview of the sales channels is depicted in Figure 12.

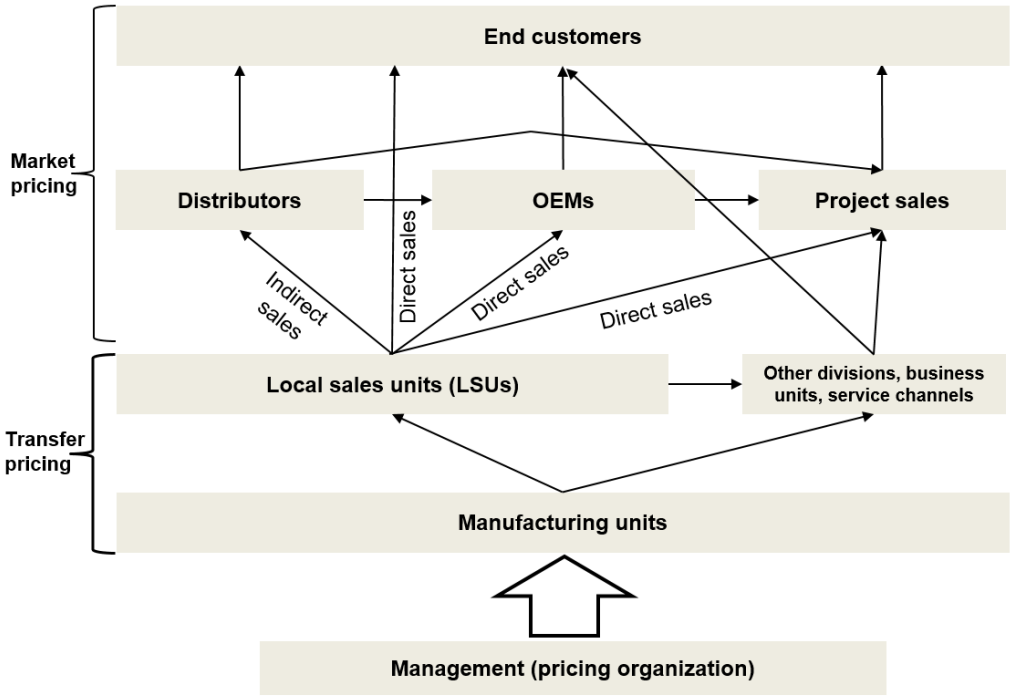


Figure 12. Eauco's sales channel structure

Direct sales to end customers

This channel has generally the lowest price pressure as the customers often see Eauco as partner rather than as a faceless component supplier. For example, if a large steel manufacturer buys components directly from Eauco to a new 100$ million factory under construction, the components total cost will be insignificant due to the large scale of the whole investment. Thus, no remarkable amount of resources are allocated to the price bargaining process. In addition, these customers are often key- or strategic accounts for the whole company. This means that there are often cross-selling of solutions and services within the internal channels. Also, these accounts might be protected by HQ level contracts which locks the prices into certain range and leaves limited options for pricing management within the case business unit.

Distributors

This channel consists of intermediaries that are wholesalers, distributors and dealers, who buy products from Eauco and re-sell them to market. This makes the sales process indirect, as Eauco is not directly interacting with the end customers. This channel is also Eauco's largest, measured by the annual sales volume. Often single orders are large, which increases the temptation to increase discounts to fill sales targets quickly. Most of the profit potential exists here because even small improvements in the net prices can have a huge impact on profitability. However, the risks are also high due the risk of losing large customers.

OEMs

This channel consists of machine and equipment manufacturers, who produce either final products or components. These products are then used as a parts in larger final products or systems. Final product could be for example an elevator and component could be a conveyor system in industrial product line. In the OEM channel, the price pressure is extremely high, thus decreasing the profitability drastically. This is happening because Eauco's products are just single, in some cases, insignificant components in the OEMs' final products. Obviously, OEMs seek to maximize their own profits and pay careful attention to price negotiations and compare various suppliers. If the OEM's production volumes are high, even small reduction in the component prices can make a notable difference. Considering the price aggressivity of the OEM channel, one might wonder why Eauco is willing to remain in this channel. The answer is simply that it is a strategic choice. The key argument is that the long-term reward within the OEM channel could be high. This is because OEMs often rely on one supplier for a long time and often the

prices are fixed for several years. Also, in some cases the cost to change supplier is high because OEMs often need customized products (components). The result of these aspects is that if Eauco fails to catch the opportunity with incompetent prices, the window can be closed for years. However, successful partnership with OEM manufacturer could lead into a profitable long-term customer relationship. Another reason to pursue this channel is risk diversification if something happens in the other channels.

However, the price pressure results into rather strange situations from the profitability perspective. For example, even a deal with negative margin can sometimes be considered as a positive outcome within this channel. So, from the MCS design perspective, it is obvious that the net price is not always an optimal measurement of success. Instead, strategic, perhaps non-financial metrics should be used. These could for example be new customer acquisitions, customer retention rates and customer satisfaction rates.

Project sales

The project sales channel includes full- or partial solution providers, which are called system integrators. Full solution, could for example mean that an engineering company takes responsibility of integrating all the automation equipment in a newly constructed factory. Partial solution could for example be a unique set of control panels that are used in the same factory.

The customers in this channel usually buy products directly from various suppliers including Eauco's competitors. They also buy from distributors and from OEMs. This is a complex channel to manage especially from the pricing perspective because the orders vary from very small to extremely large ones. In addition, the supplier-customer relationships can be complex; if for example, the end-customer is willing to use Eauco's products in some solutions but competitors' products in others.

From the MCS perspective, this channel possesses both strategic and purely profit oriented aspects. Most importantly, the price coherence should be achieved. For large orders, there is a separate risk reviews process. This process analyzes the overall profitability of the deal, thus making it sufficient control over the large orders. In this sales channel, the focus will be on smaller orders.

Summary

In conclusion, the complex sales channel structure results into bizarre situations where same products with certain pricing strategies, are sold with completely different prices in different channels. Due the emergence of E-commerce, this is not a sustainable situation because the products can be ordered from wherever they are cheapest. The only consideration is the freight and custom costs. Therefore, this thesis also seeks solutions for achieving price coherency.

5.3 Current pricing controls, processes and management

This section provides an overview of the current management controls in place that affect the pricing process and its performance. To follow a logical order of presentation, the current pricing process and the way how the pricing management is organized are also introduced. Some critique and challenges with these entities are also pointed out during the descriptions. Later in chapter 5.4 a more data and interview driven problem identification is presented.

Organizational structure

The organizational structure is complex because the case firm Eauco is a smaller part of a larger enterprise. There are four hierarchic organizational layers that all have different authority and responsibility levels of general management and obviously for the controls too. These management layers can be categorized into 1. *headquarter (HQ)* and *division*, 2. *business unit* (BU), 3. *product group* (PG) and 4. *local sales unit* (LSU) levels. The organizational structure is presented in Figure 13.

The manufacturing units can mainly be ignored in this study because the factual operational sales always flow through the LSUs. Eauco operates on the PG level and the red circle depicts where the pricing management controls are being designed. Each of the managerial layers have high level of autonomy and a separate management team. The compositions of these varies to some degree and the units' general manager is always part of the upper management team. For example, at the PG level, Eauco's managing director is part of the BU management team. The core audience of this thesis is the PG management team, who will then implement any of the recommended changes. Some of the adjustment might need an approval from higher management levels but to keep it simple, it is assumed that all the proposed changes are directly applicable by the PG management.

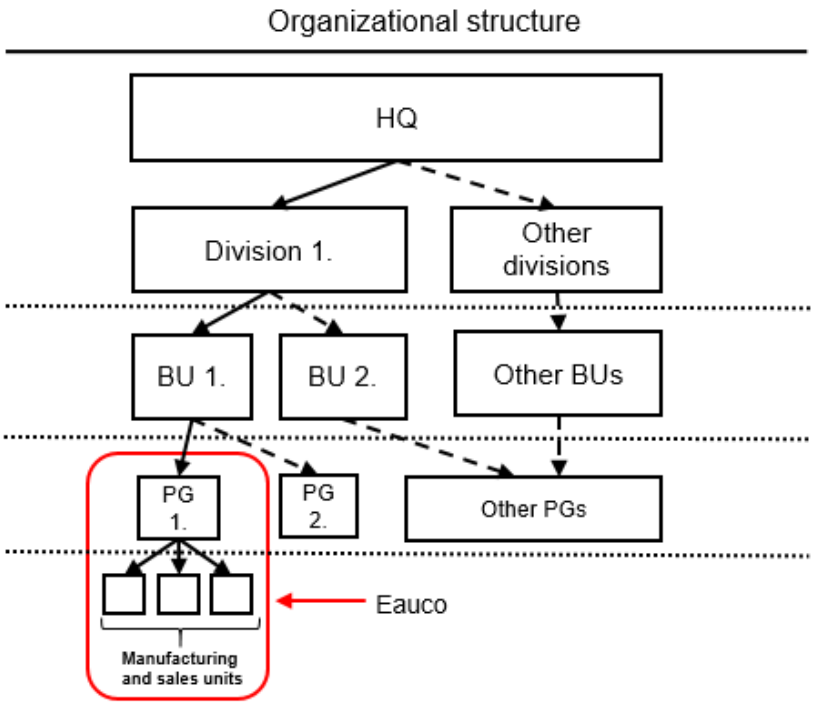


Figure 13. Organizational structure and authority dispersion

Current state of the pricing management

Currently Eauco's pricing management is not part of the PG management team. The pricing management operates under the global product management team. In addition, there are no pricing management functions in the HQ, division and BU levels. This means that Eauco is operating with high autonomy on the pricing management and the pricing process can re-engineered and adjusted as wished. The only constraints are obviously the targets and restrictions set by the higher management layers. However, the autonomy is a double-edged sword. Mainly, because there is significant lack of top management attention and support. This can be highly detrimental for the pricing functions ability to generate any benefits (Hinterhuber 2008).

The main weakness of the current pricing organization is its limited resources and lack of hierarchic power. The organization is small, consisting of the global pricing manager and her support team, which consists mainly of pricing analysts. However, this is understandable because the pricing management initiative is established less than a year ago. During this thesis's writing period, the functions main responsibility is to gather and analyze pricing data to understand the current challenges. Additionally, the function is implementing a pricing analytics tool, which will help to coordinate the pricing process from planning to execution. Most importantly from this thesis' perspective, the function is responsible for establishing a new pricing

process. This process involves the changes to the management controls. The development process is conducted in collaboration with other functions, which are mainly global product management, global sales management and global finance. The product management is responsible for defining pricing strategies. Global sales function is responsible for coordinating global sales operations. The local sales units (LSUs) are responsible for operational sales on local level and thus, have the final authority over the pricing. LSUs are located in over hundred countries and vary greatly in size. Some have only tens of thousands total sales in USD, whereas the largest have tens of millions. The LSUs are supported by area sales managers who focus on smaller set of countries. The area sales managers have also been responsible for defining transfer prices for the LSUs. Lastly, finance and controlling function is involved to provide financial perspective into pricing. Finance also coordinates the budgeting process. The composition and responsibilities of the functions involved in the pricing process development is presented in Figure 14.

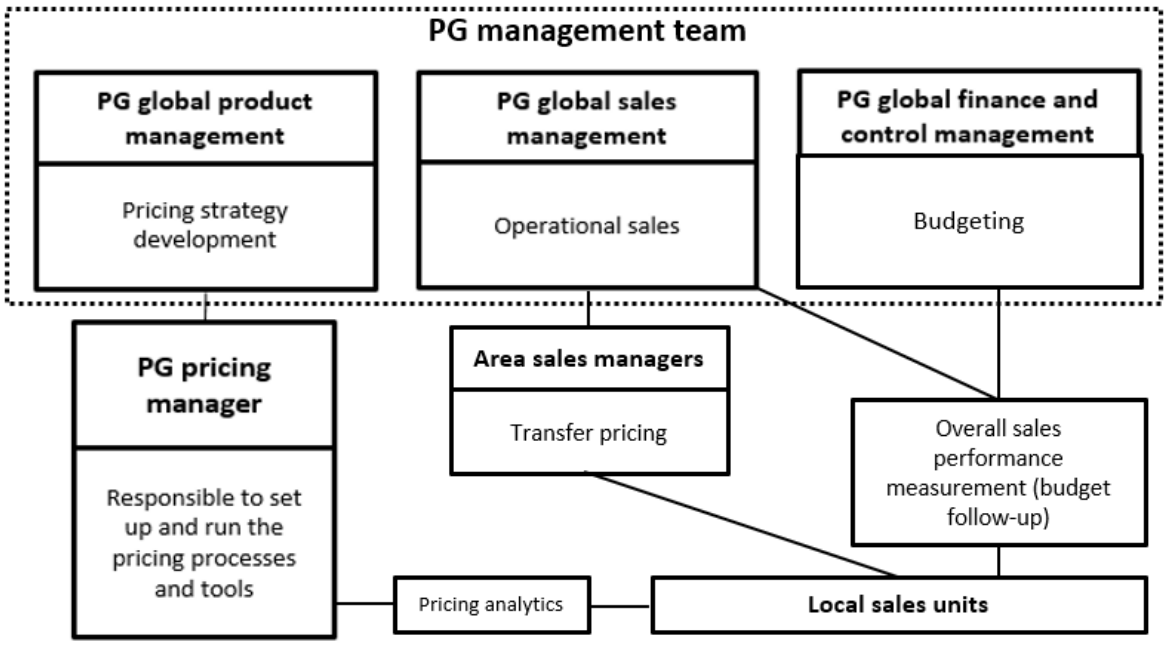


Figure 14. The functions involved in the pricing management process

In summary, pricing development program is young. It will probably require at least one to three years before a fully functional pricing process will be operational. At this stage, this thesis aims to provide a starting point for the management control adjustments.

Current pricing process

Currently, the LSUs are executing the operational pricing with high autonomy. The only direct control over the pricing is transfer price (TP). This means that the LSUs must sell above the TPs to remain profitable. The second challenge is that the LSUs must only cover their own selling general and administration (SG&A) costs. They often have very low or even inexistent profit targets. This is because majority of the profits are shown in the manufacturing countries for tax reasons. With this approach, the TPs should be high enough to secure all the profit potential. However, if the TP is too high, there is a risk that the bottom price is too high, and LSUs will begin to lose customers. This means that the TP has been set to leave some freedom for the LSUs to optimize prices. However, if the LSUs do not have any profit responsibility, there is no reason for them to negotiate higher prices. These facts suggest that the current transfer pricing-oriented pricing process is not effective. Next, the step-by-step pricing (Figure 15.) process is explained.

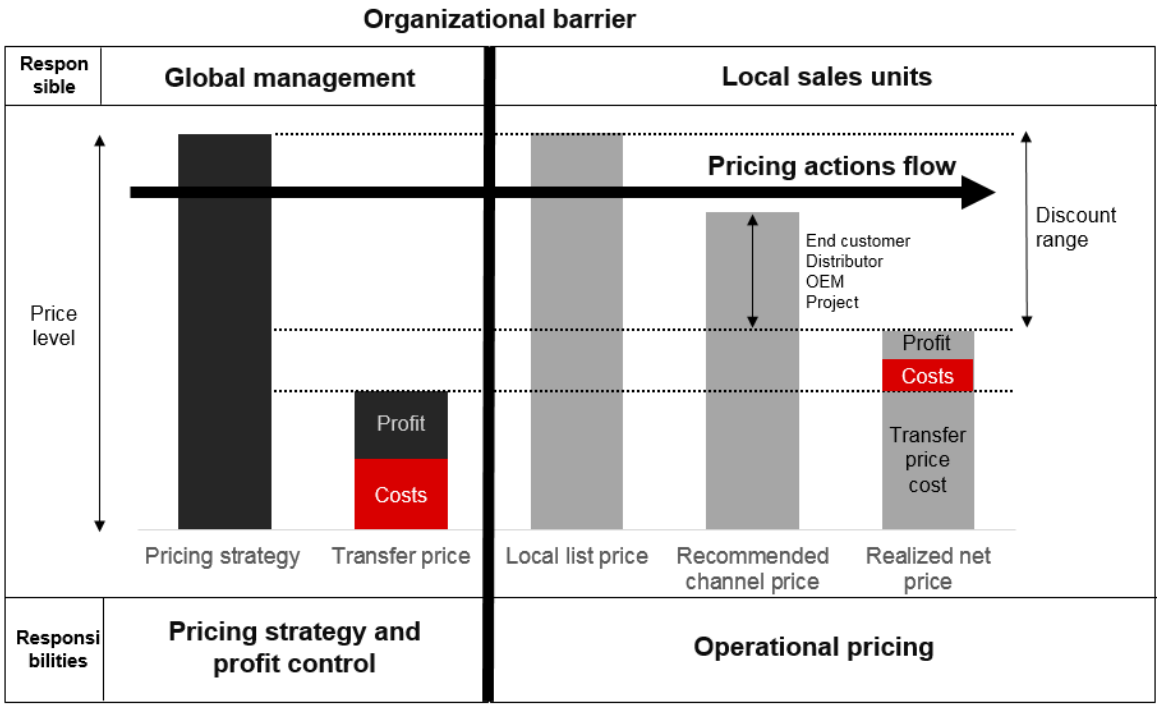


Figure 15. Eauco's current pricing process (The price and margin levels are only directional)

Figure 15. shows that global management defines the pricing strategies and controls the profit with transfer pricing as explained. The pricing strategy is defined globally and if all the LSUs could sell at this price there would be no challenges. However, the pricing strategies are almost always based on the cost-plus concept. This means that wherever the product is manufactured,

there is a fixed global target profit for each product. However, obviously no product can be sold at same prices globally. The solution is that the local units should base their pricing on a local list price, which involves local adjustments like currency differences and overall market conditions. However, these adjustments are rarely made because no one controls it. The theoretical role of the TP is to act as this adjustment by pushing the price to right direction. As stated, the area sales managers are responsible for setting TPs. However, this is not optimal solution because of two reasons. The goal of the TP is to share profits optimally, but this should preferably be managed by finance because they usually have more expertise in profit optimization. The reason for the current arrangement has been to allow the area sales managers expertise in sales to steer the prices to meet the local market conditions. Secondly, the area sales managers are not actively participating the operational final price negotiations with the customers. This means that they try to motivate these negoations from the back-end with the TP. Often the area sales managers provide standard equations for the LSU to calculate the recommended price. These equations are often outdated because there is no control, motivation or resources to adjust them regularly. In theory, this could work if the area sales managers would constantly negotiate the price with customer. However, this is not a feasible solution in practice because the LSU are responsible for the final pricing.

The next step in the process is the recommended channel price which illustrates the price variation between different channels. These prices are managed by the LSU but there seems to be no systematic approach for defining these either (this is also shown later in the data analysis section). Lastly, the realized net price shows the total discount from the pricing strategy and list price. The gap is often high.

The current pricing process can numerically be explained in the following way: The pricing strategy suggest a sales price of 1000$ per unit. The manufacturing unit sets the transfer price to 500$, which ensures 250$ EBIT for the manufacturing unit assuming 250$ production costs. Now the 500$ transfer price sets the LSU price floor in Monroe's (2003) framework. After the transfer price, the LSU has only to cover its own SG&A costs and profit target, which is generally very low. The obvious solution would be to increase the transfer price or to give higher profit targets. This however is not an optimal solution because increasing the TP would reduce the pricing freedom of the LSUs. Giving a fixed and higher profit target would optimally work,

but there are various challenges with this, which are discussed later in the incentive adjustment recommendations.

This arrangement allows a high level of autonomy for the LSUs. However, it causes challenges for the global management. The reason behind this is the organizational barrier between the global and local units. This barrier prevents the global management from observing and intervening majority the local activities. However, the positive aspect is that the LSUs are generally experts in their own markets. This vertical sales and pricing authority delegation is supported by various studies (for example Homburg et al. 2012). Finding the balance between the autonomy and control makes the design of MCS difficult. Too tight control might lead into opposition and even to resignation of key people for example. On the opposite, too loose control will not solve the topline leakage. To solve this, the recommendations aim to retain the well-functioning elements of the current controls. For example, the LSUs will still have high autonomy and solutions are mainly sought by providing more motivation to improve. This is why the changes in incentive schemes are important in effective pricing management.

Current budgeting process

The annual budgeting process is conducted either in bottom-up or top-down manner, depending of the budget year. The budgeting process is primarily coordinated by the HQ management. The purpose is to collect aggregate estimates of sales, cost and other metrics that form the KPIs. The lower organizational levels must get the aggregate targets approved by the supervising level. In practice this means that Eauco prepares its own PG level budget according to the guidelines flowing down from the higher levels. However, despite of this manner, there is generally broad freedom for the lower level units to gather and process budget information that suits their needs. For example, sales channel data collection might not be required by the division management, but the BU and PG levels can freely collect this to measure their performance more effectively. Due to this, the budgeting process is designed to support both financial and strategic requirements. For example, if strategic goal has been to grow sales rapidly, more emphasis has been on the overall sales growth and less focus has been paid on the costs and vice versa. This also suggests that the pricing specific improvements should not face any resistance. However, there are some challenges which are explained next.

Eauco's budgeting and performance measurement is conducted by combining two different mechanisms' information due to complex accounting systems. The challenge is that the sales

targets are measured as orders, which are reported in different system than revenues, costs and balance sheet items. This means that the LSU profitability is not measured on constant basis because the accounting costs do not match. This means that the profit margins are measured as aggregates. This is happening because the current accounting systems collect data as an aggregate on country level, which means it includes all the manufacturing costs if a factory exist in the country. This is problematic because the real sales process is still occurring through a separate LSU. This means that the LSUs pricing performance can only be measured at the end of the year when revenues and costs (transfer prices) are matched. However, because the incentives can be paid annually, this does not affect the design of incentive systems by providing margin targets for the LSUs. These are discussed later in the incentive section.

In practice, the sales budget is compiled by collecting total sales estimates for each customer from the LSUs manually. These estimates then form the targets that are measured on regular monthly basis. The sales budget collection template is depicted in Table 4. The performance measurement is illustrated as the traffic light comparisons in the template.

Table 4. Current sales budget collection template

	2018	2017	2018 T	Vs Act	Vs Target
Total	**xx**	**xx**	**xx**	**16 %**	**-14 %**
LSU 1	xx	xx	xx	47 %	-32 %
LSU 2	xx	xx	xx	7 %	-17 %
LSU 3	xx	xx	xx	-20 %	-19 %
LUS 4	xx	xx	xx	36 %	-62 %
LSU 5	xx	xx	xx	10 %	-55 %
Total	**xx**	**xx**	**xx**	**16 %**	**-14 %**
End-customer	xx	xx	xx	12 %	5 %
Distributor	xx	xx	xx	5 %	12 %
OEM	xx	xx	xx	-3 %	-4 %
Project	xx	xx	xx	15 %	-13 %
Total	**xx**	**xx**	**xx**	**16 %**	**-14 %**
Product line 1	xx	xx	xx	3 %	-1 %
Product line 2	xx	xx	xx	15 %	5 %
Product line 3	xx	xx	xx	5 %	10 %
Product line 4	xx	xx	xx	-1 %	0 %

The current sales budgeting process pays limited direct attention to pricing performance. This is problematic from the pricing management perspective because the performance targets and incentives are mainly based on the budgets. The main reason for the current weakness is that the sales budgeting does not measure the volume-price mix variations. Instead, the budget measures total sales (order) volume. This makes it almost impossible to measure the net price change's impact on the total sales. In fact, the perceived price erosion is not measured and compared to any valid target. Instead, the price erosion is based on managers' gut feelings. The purpose is not to question if the price erosion exists or not. Instead, there should be an accurate and verifiable metric that would allow Eauco to truly observe the degree of price erosion.
The more accurate estimations of the price erosion's impact have been based mostly on Eauco's global finance manager's analyses. According to him, the challenge is to measure the total impact on global level because of two reasons. First, there are so many product variants that it is difficult to measure a comparable price impact on detailed level. Secondly, the accounting systems provide somewhat insufficient information about the realized net prices on detailed level. The problem with accounting systems is a major concern for the whole pricing management. However, this does not rule out the recommendations of this thesis. For example, if the volume-price breakdown is the only possible suggestion, then the accounting systems should be adjusted. Fortunately, there is a major initiative on the case company to improve the data accuracy.

In conclusion, the main weakness of the current budgeting is the lack of sales volume-price mix measures. Fixing this probably requires considerable amount of work, but the payoff would probably outweigh this. Because the budgeting process supports wide variety of functions and not only the pricing, there should be clear motivation behind this. On the profitability side, the budgeting measures are basically correct. The only deficiency is the lack of granularity of the profit impact on LSU level. The aggregate gross-margin includes all the manufacturing costs and lacks the impact of the sales units' contribution.

Other pricing performance measurement

The current budgeting process is the basis for overall sales and profitability monitoring. The closest measure to pricing is the LSU gross margin percentage. However, no separate pricing specific KPIs are measured regularly. The only specific pricing performance analyses have

been conducted by the pricing function in ad-hoc manner. However, the global sales management regularly monitors the following KPIs:

- Order pipeline trending
- Average opportunity size
- Hit rate
- Customer engagement
- Cross-selling & cross-collaboration
- Won vs. budget

Unfortunately, none of these directly address the pricing performance. In fact, many of these seem to emphasize the volume impact over the profitability. For example, the average opportunity size seems to suggest that larger order opportunities are better. Other way around would be to measure the opportunity profits or customer specific price development. In summary, this section seems to be in the weakest shape from the pricing perspective. Luckily, the pricing literature provides various tools that should be rather easy to utilize.

Incentive and rewarding policies

There are two types of these systems, global scorecards and local incentive plans. The scorecards are based on the externally communicated strategy and are managed by the HQ and division management. This means that the PG management cannot directly adjust them as they would like to. Due to this, the scorecards are left out of the discussion. The local (sales) incentive plans are locally managed and focus on specific business objectives of a business unit. The plans purpose is to incentivize achievement of sales personnel or production personnel. Key focus areas are order growth, market penetration, margins and various others. The plans vary from one to another in terms of metrics, number of KPIs, payout frequency, and applicability for example.

Currently the local incentives are not standardized across the LSUs. The point has been that there should be some freedom to adjust the LSU specific incentives. However, this has resulted into a complex mess, where no global goal congruence exists. It is pointless to analyze all the current incentive schemes due to their large number and because they are adjusted each year. However, during the past years, the LSU incentive schemes have mainly been based on the

budgeted total sales volume targets. As stated earlier, there rarely is much weight on the profitability aspects. One of the key challenges is that there is no globally uniform harmonization of the reward systems. In some countries the LSUs are more risk averse and prefer not to tie too much of their incentives into variable metrics that they feel are out of their control. However, this is then the managers decision to provide hard to reach or more easily achievable targets. The incentive schemes should be harmonized and the culture itself should not matter.

Summary of the current controls

Finally, there is not a just single control mechanism which is flawed from the pricing perspective. Instead, there are various flaws that should be corrected. It is essential to acknowledge that if the corporate objective has been to grow rapidly and the controls have been designed to support this goal it might cause adverse pricing performance. However, as the literature suggests (for example Hinterhuber and Liozu 2012) companies are leaving a lot of money on table because they do not try to optimize pricing. Adjusting the control mechanism does not mean that the whole objective is to focus on pricing and that all the controls should focus on this. Some of the controls like pricing process adjustment have less impact on anything else. On the opposite, incentive plan adjustment will inevitably affect the bigger picture.

5.4 Challenges with the pricing performance on LSU level

Now, the overview and the state of the current controls are presented. Next, some realistic pricing performance data from a pilot LSU is presented. This is complemented with some interviews and opinions from Eauco's managers. The purpose is to understand why the current pricing process is not efficient, and what could be the main antecedents behind this.

Data analysis by product line

The Figure 16. below shows an analysis of two different products line's discounts on customer level in one pilot LSU. The data shows that low-end products are sold with higher average discounts than the high-end products. This is slightly odd outcome because common sense would suggest that because the low-end products have lower average prices, customers would pay less attention to discount negotiations. However, the explanation could be that the low-end products are sold in large quantities trough distribution channel. Other reason could be that Eauco as well seems less profit potential in these products and more focus is paid on the high-

end products which can generate more value. This also suggests that the pricing strategies are effectively influencing the sales units behavior because the low-end products are often sold with cost-based strategies and the products itself possess less value in the customers' eyes. On the opposite, the high-end products are valued more by the customers and Eauco as well. However, the key errand of this analysis is to express the lack of logic behind the discount levels on customer level because product costs are assumed steady, and the only difference is the price that the customer pays.

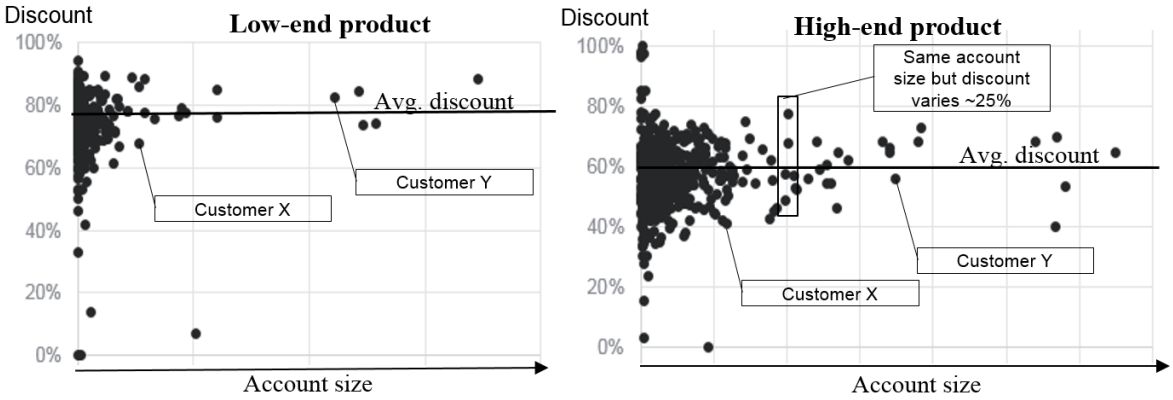


Figure 16. Product line discount data from pilot LSU. Each black dot represents a customer.

The analysis shows that some customers that are buying with exactly same annual volume get largely varying discounts. The reasons behind this should be carefully analyzed to understand why this is happening to implement corrective actions. Optimally, the pricing management should dig down on each customer on LSU level to investigate the antecedents behind the discount variation. For example, are the other variables than the customer's annual volume that could cause higher discounts? This customer specific analysis is discussed more in the recommendations section in chapter 7. Next, the channel specific discounts are analyzed.

Figure 17. depicts channel discount data from one of the sales units. The left chart shows the discount variation between the channels. Especially the project and OEM discounts varies greatly. The right charts shows an optimal outcome where there would be specific channel discount ranges. For the highly deviating channels, the range could be higher. Of course, low discount outliers should mainly be accepted. However, some customers might feel discriminated if competitors discover them and offer them lower prices than Eauco. Thus the pricing threshold range should be more strictly fixed at the bottom and more flexible in the top.

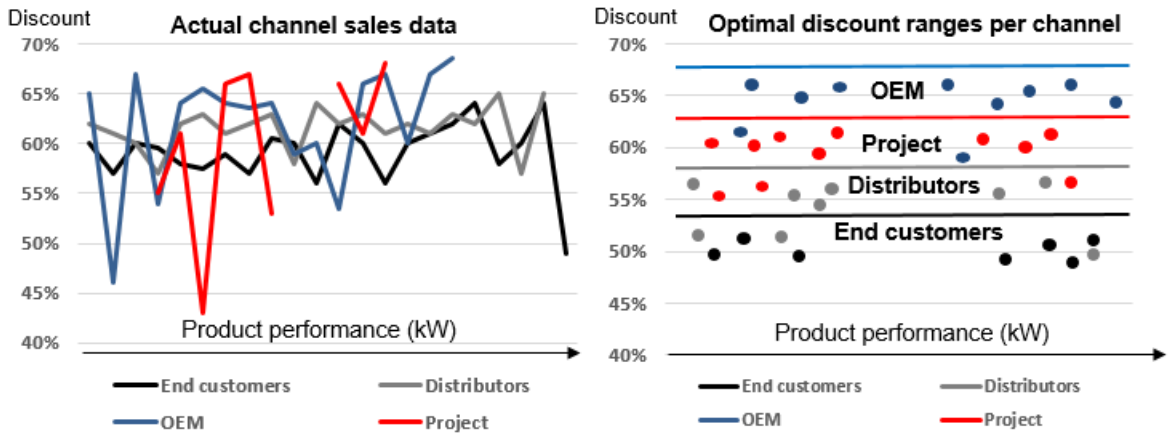


Figure 17. Channel discount data from pilot LSU

However, these findings are not uncommon. They are mainly aligned with the academic research. For example, Marn and Rosiello (1992, p. 89) described their case study findings in the following way: *".. prices showed no correlation to the account sizes – it was a virtual shotgun blast."*. According to them, it seems that these shotgun blasts are frequent outcomes when companies conduct detailed discount analyses. This kind of analyses should act as motivational catalysts for companies to start managing their prices. Next, the possible antecedents are briefly discussed.

What is causing the topline leakage and the discount inconsistencies?

There are various possible reasons for the high and inconsistent discounts. Next, summary of interviews and observations from different managers is provided.

Lack of profit motivation and problematic transfer pricing policy

One of the major causes is the lack of profit responsibility and motivation in the LSUs. When the sales units fill their annual sales budget, they will get rebates for anything that exceeds this target. This means that they bear no risk of the profitability and are motivated the give large discounts. They can usually easily cover the SG&A costs when they meet the budgeted sales target. However, if for some reason the (very low) profit target is endangered, the global management can lower the transfer prices. The whole issue with the lack of profit motivation is illustrated by Eauco's global finance manager who stated that: "*The main problem is that they (LSUs) don't bear any risk on the profitability. This is because they will get reimbursement if they meet or exceed the budgeted sales target. So, the global management (manufacturing units) acts like a bank..*"

Cultural differences

The pricing performance also greatly varies from between the LSUs. Larger units generally receive more overall management attention compared to the smaller ones. They might also have more detailed processes to manage the discounting. However, there still seem to be no evidence that the LSUs size would have motivate them to LSU to pay more attention to discounting.. For example, manager from one of the largest unit's pondered the results of the discount analysis in a workshop meeting: "*Some customer who buy exactly the same quantities of products, have hugely varying discount levels. There is no clear reason nor excuse for this. We must begin to negotiate the prices again with the customers to fix this..*" *– Local sales unit manager*.

Medium sized unit's manager answered the following when asked about if they conduct any regular price revisions: *"Some long-term customers have had the same price levers for several years; we are rarely redebating the prices again in fear to lose the customer. Also, we rarely compare the price levels with the competitor prices and just use the transfer price equation as target price" – Local sales unit manager.* From the price erosion perspective retaining the same price levels might be a good thing. However, this should be looked from an other perspective.

For example, Eauco's global sales manager argued that *"if you start to negotiate prices with the customers, they will get more interested into prices too. So, in some case it might actually be better to keep the customers happy with the current prices."*. This opinion seems to be fairly justified by manager's vast experience but the literature seems to suggest different approach. Entering the price discussions with customers should not be avoided especially in value-based pricing strategies (Hinterhuber and Liozu 2012). However, the strategy might feel like a double-edged sword in some cases because not all the customers perceive the value in similar manner but most often the overall impact should be positive.

Overall, the sales function seems to be more focused on the customers and volume than finance for example. The customer-oriented sales force has been highly successful by keeping the customers satisfied. However, there are some cases when discounts are given without compelling reason. For example, Eauco's global sales manager stated when asked about the discount policies: *"We just had price negotiations with one of our long-term customers and we gave them a five percent discount on prices without any deeper negotiations. They were happy and we*

were happy." This obviously seems a fair statement if some of the current KPIs like customer satisfaction are looked. However, what if there was no discount at all, or the discount would have been only two percent? Perhaps both parties would still be as happy, but for Eauco the profits would have been higher, if the common economics of price impact are believed. There is some evidence that suggests that companies are in some cases self-imposing the price erosion at least to some degree by giving discounts without true reason (Hinterhuber and Liozu 2012).

On the opposite of sales, finance function seems to be slightly more profit oriented. In addition to the previous examples, in a workshop meeting a LSU controller slightly exaggeratingly stated that "*The sales should also pay more attention to profitability because finance is the only one considered of it"*. The reasons behind the differing opinions are obvious and competely fair. Both functions have their own targets and areas of expertise. This is also one motivator for the establishment of separate pricing function.

Lack of guidance and rules

Another issue is that according to Malmi and Brown (2008) control framework, the number of administrative controls has been extremely low. The only direct control has been the transfer-price. Looking from a different angle, for example, what prevents the sales person to give increased discounts if the accounts representatives are his or her friends? Who would even notice this kind of behaviour if the total sales performance is satisfactory. This is also pointed out by Nagle et al. (2014) who stated that detailed pricing analyses can in some cases reveal surprising issues.

Summary

In summary, the analysis suggests that the LSUs are leaving large amount of money on the table due to the inefficient pricing process. There are many obvious and also some rather dubious causes behind this. One of the most obvious reasons is that there are no existing formal management controls in the pricing process. The main antecedent behind the lack of control could be the historically strong overall performance in profitability and sales growth. This has kept all the stakeholders from shareholders to all managerial layers happy. In addition, customers have been pleased with the prices they have been able to negotiate.

Finally, one might wonder why the current process that is operating so well should be intervened with the controls that could in worst cases harm current process? The reason is that the company should prepare for the future, where E-commerce and increased competition will deteriorate the profit margins even more. Most importantly, the pricing literature suggests that most of the companies do not pay enough attention to pricing management and gratuitously decrease profitability. In the next chapter, the proposed recommendations are discussed.

6 Recommendations

This section will provide the recommendations for Eauco's pricing management improvements. The recommendations are categorized into the following five sections:

1. ***Pricing organization:*** Establish a pricing organization to steer the pricing policies in collaboration with product management, sales, finance and other functions.
2. ***Formal pricing process and decision rights:*** Implement a re-engineered pricing process with fixed discount corridors and decision right limits.
3. ***Budgeting and KPIs:*** Improve the budgeting and other KPIs to measure the pricing impact more effectively, e.g. the *net-price variance* being the key KPI.
4. ***Incentives and rewards:*** Influence the incentive policy transformation to measure profit and volume instead of pure volume.
5. ***Performance measurement and corrective actions:*** Form a regular monitoring of the pricing performance corrective actions to the controls and procedures. Communicate with LSU for feedback to adjust the whole control process.

6.1 Pricing organization

The pricing textbooks and academic papers emphasize the importance of a formal pricing function (Smith 2016, Nagle et al. 2014, Homburg et al. 2012; Lancioni 2005). The newly appointed pricing function has the coordinative objective and role but is not receiving enough management attention and support from the PG management level and none from above this. The attention and support are essential for the function to be successful (Nagle et al. 2014; Hinterhuber 2008). Top managers' desire to improve the pricing process would encourage the other functions to implement the changes in collaboration. The lack of attention and resources is a common issue in organizations and if it would not be, the pricing and various other issues would probably be already solved. However, probably the best way to gain the management attention would be to build brief business cases that show much the pricing would affect the profit (Nagle et al. 2014). For example, running a pilot in at least one of the smaller LSUs to see whether any of the controls have effect. Nevertheless, there is no direct and easy answer to achieve the management focus, but it should be essential at least in the future. Perhaps this is slowly progressing when the current function can deliver valid results of performance improvement.

The other key issue with the current pricing function is the lack of hierarchy and credibility among the PG management. The obvious recommendation would be to appoint the global pricing manager to the PG management team. This can be justified by benchmarking other case firm's units. As a benchmark, other BUs and even some divisions have a pricing manager seat in their management teams. For example, another BU in the same division as Eauco has a pricing lead operating directly under the BU's marketing manager. In the same BU, all the PG's have not one, but two middle level managers who are responsible for pricing management. The first one is responsible for general pricing management whereas the second one focuses on pricing tools development. Both pricing managers operate under the PG's global sales management. Finally, another division has an individual pricing manager in the management team, which ensures that pricing receives abundant level of attention and support on all the levels within the division.

These facts should illustrate the weakness of the current organization. This is even highlighted by the fact that there is absolutely no support from the BU or division levels. Also, there is a slight lack of credibility among the functions that are hierarchically above the pricing manager. If the pricing management is operating under any of the other functions, the decisions can easily by overrun. As an equal level function, pricing could get its voice heard. In addition, there would be neutral environment because the pricing would not be directly reporting to any of these functions. No proper research nor practical articles about to whom the pricing organization should report to exists. However, Smith (2013) found some weak implications that are rather obvious. If the pricing is reporting to finance, it will receive more profitability attention. Reporting to sales tends to be result into the volume focus. In the marketing functions, in this case the product management, the pricing tends to focus on price planning activities and have less operational responsibility. The findings from Eauco seems to be similar to these findings. This slightly suggests that the best option is to detach the pricing from other functions and let it report directly to the PG manager because there are no pricing managers on higher managerial layers.

Finally, there are definitely more aspects that should be discussed before these changes should be fully implemented. For example, the composition and responsibilities of the pricing management team should be clearly defined. Otherwise, the presented changes could only add more bureaucracy with high possibility that nothing truly changes or improves as desired. However,

going too deep into these discussions is not yet optimal at this stage and thus are not discussed further in this thesis. These issues should be discussed by the management team and the pricing manager when pricing development proceeds further. Finally, the key message of this chapter is to highlight the need for a more formal pricing organization. The ultimate and best practice probably forms in management discussions later on, but the thesis aims to ignite these interactions. The presented recommendations are suggested by the literature which agree that for the pricing function to be effective, it cannot be an expert resource function that only provides support (Nagle et al. 2014, Hinterhuber 2008). The pricing should be managed like any other function. The conforming point for many managers is probably the fact that pricing function does not often require too much resources due the role as a coordinator and not as an operational level executioner like sales (Smith 2016).

Final recommendation in this category is how much authority the LSUs should have over the pricing process. The pricing function's purpose is not to intervene each step of the process and to disturb the operational sales. According to the Homburg et al. (2012) recommendations, it is agreed that the LSUs should still retain most of their authority to negotiate the prices. However, as the analyzed data depicts, the current level of autonomy is not optimal. Thus, the vertical authority should be decreased by some degree. This means that the pricing process, decision rights and price ranges should be restructured and applied. These will be discussed in next sections.

Finally, the concrete actions that should be taken are:

- Convince the higher management levels (mainly PG and BU) by showing simple business cases and other evidence about the potential benefits of pricing.
- Run a pilot program on LSU level to test any of these controls. Do not focus only on the pricing analytics tool that is being implemented, change incentives for example.
- Appoint the pricing manager to the PG management team. There is no vertical support, and the horizontal credibility is insufficient.
- If none of the recommendations are applicable, retain the pricing function as an expert resource that conducts analysis to support the other functions. However, if the purpose is to manage pricing globally to unleash all the potential, this is not an optimal solution.

6.2 Proposed pricing process adjustments

The key adjustment to the current pricing process is to turn the focus on front end operational pricing and to reduce the problematic back-end steering with the transfer prices. An overview of the proposed pricing process is presented in Figure 18.

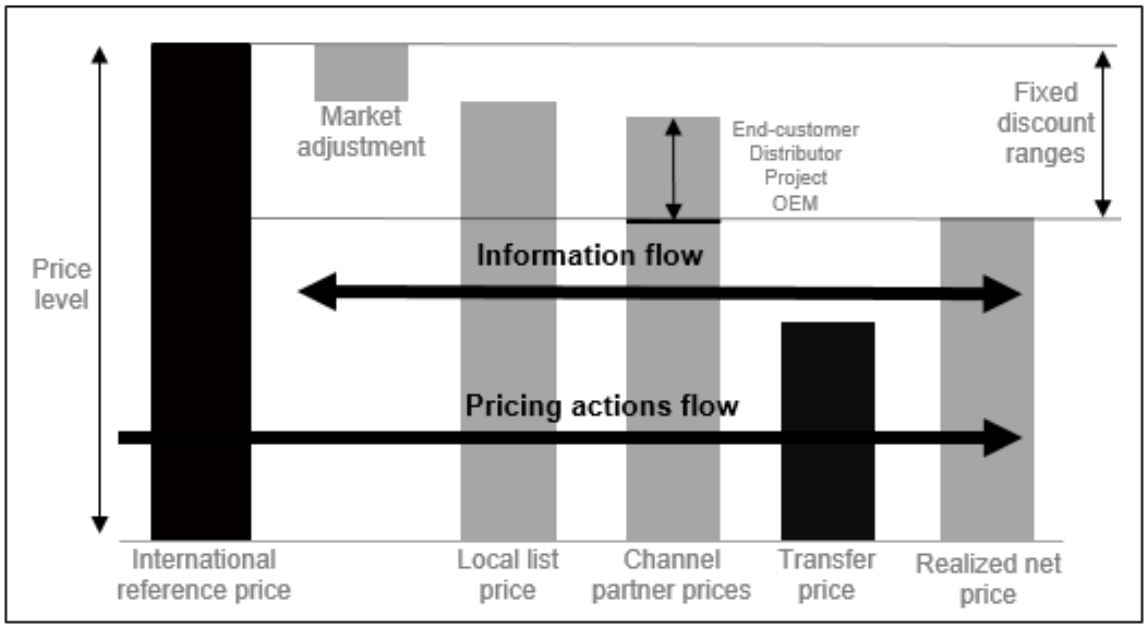


Figure 18. Proposed new pricing process. (The price and margin levels are only directional)

The process begins again with the pricing strategy but instead it is referred as international reference price (IRP) because this is more descriptive term for a global strategy. The IRP is based on the pricing strategies that are based on either cost, competition or customer values. These are not discussed further because from the process perspective it is not important.

The second step is to conduct a market adjustment, which means that the IRP is adjusted to meet the local market conditions based on the local overall market conditions. According to Homburg et al. (2012) recommendation on finding the balance between horizontal and vertical pricing authority dispersion, the market adjustment should be conducted in collaboration with the LSUs because they are experts in their local markets. This an essential improvement to the existing process.

This recommendation is presented as the information flow, which now should replace the organizational barrier with information sharing between local and global units. The information

feedback loop is seen as an important element by the Eauco's. Global finance manager stated that: *"It is very important to gather the local market information about prices and other market conditions from the LSUs. This will support the pricing strategy formulation and operational pricing"*. According to the MCS literature by Simons (1994), Kober et al. (2007) and Merchant (1982) this should also cause the continuous improvement of the control system itself. The MCS adjustment means that any of the components can be adjusted if necessary, for example, if an incentive plan is not delivering optimal results for the certain LSU.

After the market adjustment, the local list price should act as the products' price ceiling for the LSUs. This is then adjusted to meet specific channel level prices. For example, if certain products prices are on average are very low in the OEM channel.

Finally, the unnecessary "playing" with the transfer price should be forgotten. There is no reason why the TP should be adjusted for each transaction because the TP is not set nor realized when the sales employee closes a transaction with the customer, the TP is the generally defined ex- post when the products are shipped from the factories to the customers. Instead the TP should be fixed for each product in every LSU. This would have three main benefits. First, the LSUs would always know their cost structure because the price range would be based on price corridors and target prices, which are discussed next. This would allow them to conduct profit-oriented business where their cost would directly drive the sales and pricing decisions. Secondly, this would allow the change of incentives to motivate the LSUs to increase profit by pricing. This is discussed further in the incentive and rewarding policies. Thirdly, when the finance function would be responsible for the TP setting, they would still have the opportunity to adjust in special cases to optimize taxes and special transactions like high discount strategic accounts. The last step is the final net price where are the discounts are netted out. The prices should be significantly higher if all the presented control prove to be effective.

Pricing corridors

One of the most important rule-based controls that should be implemented are the *price corridors*. These are based on the Monroe's (2003) concept of price discretion. The corridors define the limits where within the LSUs can negotiate the final prices. These corridors set the range for the LSUs where they can price freely without the intervention of the global management. The corridors must be applied for each LSU and they must be done separately for different product lines. These rule based thresholds allow a decent level of pricing authority for the LSUs and limit the required intervention of global management. However, these still form a uniform control over the minimum and maximum prices. The corridors are presented in Figure 19.

1. ***Global price corridor***, sets the price limit on global scale, this also should be the E-commerce price limitations.
2. ***Local (country) corridor,*** which sets the local (country) price limit. This limit is stricter because more information from the local markets should be considered.

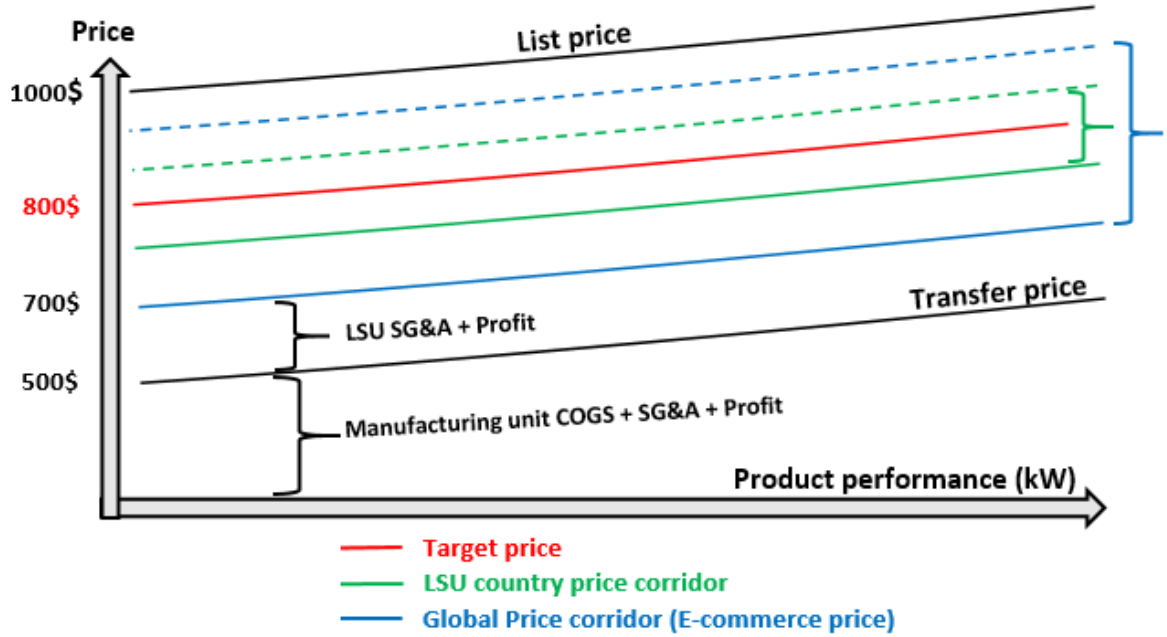


Figure 19. Proposed pricing corridors (margins are descriptive only)

The list price refers again to the pricing strategy after the market adjustments and if any of the LSUs can sell at this price, it would be optimal. However, this rarely is the case because often smaller discounts are given based on the quantities order, or any other component that are

shown for example, in the Marn and Rosiello's (1992) price waterfall analysis. The target price can be anywhere within the intended corridor, but it should preferably be in the middle to allow both upward and downward movements for the pricing decision. Providing more concrete illustration of the prices is difficult during this stage of the pricing development project because the corridors and target prices must be based on the pricing strategies. Hence, the suggested framework is simple illustration of what should be done. The example prices used in Figure 19. are the basis for the incentive profit calculations in appendixes 2, 3, 4 and 5.

The key idea behind the pricing corridors is that they retain some degree of authority for the LSUs. The concept of high autonomy and decentralization has led into a good performance during the previous years. The suitable level of autonomy is also supported by Homburg et al. (2012). However, as the discount analyses show, there are several challenges with the discounting policies. As a consensus, there should be certain fixed bottom range for the LSUs. Exceeding these limits requires authorization from higher management. The authority limits are discussed next.

Decision authority limits

After the *pricing corridors* have been defined on global and local levels, the authority levels for deviating from these thresholds should be defined. These ranges are mainly based on the make and veto rights in the Nagle et al. (2014) categorization. The suggested thresholds are presented in Table 5. The exact limit for deviations and order sizes should obviously be adjusted for each LSU. The local sales force should retain their authority to approve any deals that do not differ from the corridor. As suggested, the price corridor is wide enough on the LSU level (both sales and LSU management) to allow as much freedom as possible for pricing and sales. This also means that exceeding the ranges should not happen too often, which reduces the number of the required approvals. The challenge of providing a universal approach to the decision right limits is difficult because all the LSUs have slightly different structures and policies. For example, some units might have more managers in which are other than the general or sales manager. In this case, the authority should probably be given to the sales and finance managers who can discuss the cases impact on profit and overall sales targets.

Table 5. Example of decision right limits for the pricing corridors.

Stakeholder	Decision	Criteria		
		Level	Deviation from price corridor	Order size $
Local sales force	Regular transaction	1	0 %	< 100k
LSU management (depending on the LSU stucture)	Large order	2	0 %	> 100k < 500k
	Discount exceeds range		5 %	< 100k
	Special partner considerations		10%	< 100k
Global sales and pricing	Large order	3	0 %	> 500k
	Discount exceeds range		> 5 %	> 100k
Global sales, pricing and finance	Special cases (strategic account, very large order) Finance to adjust transfer prices to not undermine LSU profitability	4	> 10%	> 100k

Finally, these four level of authority ranges should be applied globally to achieve coherence. In summary, the recommended actions for pricing process re-engineering are the following:

- Abandon the transfer price first approach and fix it to allow the LSU to understand its cost structure.
- Apply fixed discount ranges that are based on the pricing strategies and local adjustments to find a global and local range for each product in each LSU.
- Set decision authority ranges to allow price corridor deviations only when superior manager/function approves it.

6.3 Budgeting and KPIs

The proposed improvement to the current budgeting is straightforward but in practice this requires considerable amount of work. The sales budgeting should consist of the volume-price mix instead of the total volume (See Figure 20. step 1.). This would allow the company to efficiently supervise the volume-price split-down in different countries, channels and across product lines. This improvement would create a solid reference point for comparison between

the actual and budgeted performance on regular basis. However, the difficulty of implementing this change is to actually gather a reliable estimate of the prices. Volume should be easier to calculate, but the products' prices vary greatly. Thus, it is extremely difficult to provide a detailed estimate. However, compared to the current total volume budgeting it is an estimate too which is based on the LSUs best guesses. Finally, it should be possible for the LSUs to provide a decent volume-price mix estimate during the budgeting process if they have an incentive to conduct this.

Most importantly, the net price variance (step 2.) should be the outcome of the budget. It could be then one of the key KPIs when the overall pricing performance is evaluated. This metric would also improve the overall forecasting accuracy.

Table 6. Proposed changes to the current budgeting process

	2018 (1.)			2017			2018 T	Vs Act	Vs Target	Net price variance (2.)
	Volume	Price	Total	Volume	Price	Total	Total	Total	Total	Avg. Price
Total	xx	xx	xx	xx	xx	xx	xx	8 %	5 %	7 %
LSU 1	xx	xx	xx	xx	xx	xx	xx	47 %	-32 %	-6 %
LSU 2	xx	xx	xx	xx	xx	xx	xx	36 %	-62 %	7 %
LSU 3	xx	xx	xx	xx	xx	xx	xx	-79 %	-72 %	12 %
LUS 4	xx	xx	xx	xx	xx	xx	xx	60 %	22 %	5 %
LSU 5	xx	xx	xx	xx	xx	xx	xx	7 %	7 %	10 %
Total	xx	xx	xx	xx	xx	xx	xx	8 %	5 %	7 %
End-customer	xx	xx	xx	xx	xx	xx	xx	10 %	3 %	12 %
Distributor	xx	xx	xx	xx	xx	xx	xx	4 %	10 %	4 %
OEM	xx	xx	xx	xx	xx	xx	xx	-2 %	12 %	-3 %
Project	xx	xx	xx	xx	xx	xx	xx	-4 %	-2 %	-1 %
Total	xx	xx	xx	xx	xx	xx	xx	8 %	5 %	7 %
Product line 1	xx	xx	xx	xx	xx	xx	xx	5 %	2 %	12 %
Product line 2	xx	xx	xx	xx	xx	xx	xx	12 %	6 %	4 %
Product line 3	xx	xx	xx	xx	xx	xx	xx	-3 %	7 %	-3 %
Product line 4	xx	xx	xx	xx	xx	xx	xx	8 %	-1 %	-1 %

The limitation to improve the budgeting is that it is already a heavy process. It will most likely be difficult and resource consuming to gather all the price information from all the LSUs. If this will not be possible, the solution would be to gather this information at least from the large and otherwise important LSUs to get at least some perspective of the pricing performance.

The recommendations for budgeting improvements are the following:

- Begin to collect the price-volume mix estimates from the LSUs to accurately measure the pricing performance and give clearer targets.
- Follow the total net-price variance on aggregate levels to follow the price erosion impact on business.
- If it is not possible to gather the data on aggregate level, this should at least be tried to on the largest/key LSUs to understand the price impact on the performance on these levels.

6.4 Incentives and rewards

The incentive schemes are vitally important for successful pricing Hinterhuber (2008). The recommendation is that the current incentive schemes should be adjusted and harmonized to motivate the sales force to improve performance via pricing. In practice, this means that the profit aspects should also be part of the schemes. Also, the incentive schemes should be easy to administer (Nagle et al. 2014). Due to this, they should be harmonized globally because this would simplify the scheme administration. This would also provide a coherent performance targets across the LSUs. This does not mean that certain cultures where people are more risk averse or the market conditions are harsher would be discriminated. This can be solved by giving these LSUs and sales persons more easily achievable targets, but with the same motivators.

Individual incentives

The incentive schemes should be designed for both LSUs and for individual sales persons. First, question is which kind of incentive would motivate individual sales person to focus on profit instead of volume? Davidson and Simonetto (2005) propose that when the price corridors are set, the compensation should be tied purely to the target prices. If the sales force can exceed the target price, their compensation should accelerate to motive negotiating higher prices. On the opposite, the compensation should decrease if the target prices are not met. The concept of this scheme is depicted in Figure 20.

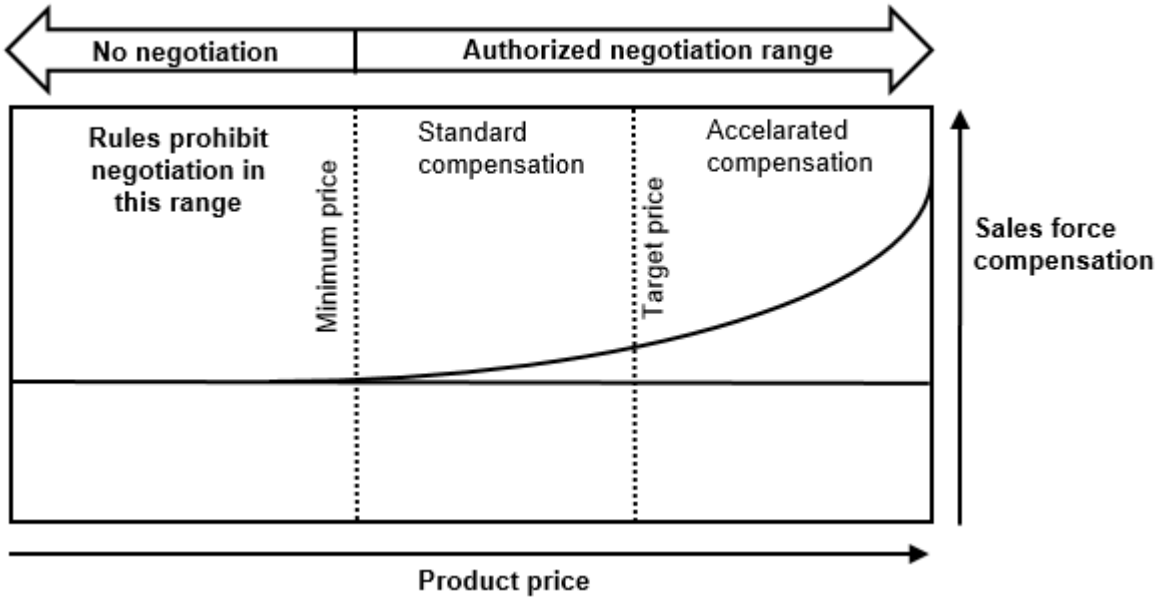


Figure 20. Proposal for new compensation policy (Davidson and Simonetto 2005)

Nagle et al. (2014) express this scheme in a numerical way, which also considers the volume impact. The idea is that the overall sales target can be based on the total sales volume. However, the idea is that the realized portion of the sales is adjusted by the sales *kicker*, which is the profitability factor. The equation is shown below:

$$Sales\ Credit = [Target\ Price - k(Target\ price - Actual\ Price)]\ \times Units\ Sold$$

The kicker should be calculated by dividing 1.0 with the products contribution margin percentage at the target price. In this example, it is assumed that the gross margin is calculated by deducting the transfer price (500$) from the target price. With 800$ target price per unit, the kicker would be 2.67 (1.0/0.375). Now, if the sales person gives a 20% discount and sells the product at 640$, the discount will be multiplied with the kicker (2.67 × 160 = 426.7). This results into total sales credit of 266$ which is 67% less than on volume-based incentive which would have been only the amount of the discount which was 20%. One the opposite, if the sales person can sell the product with a price of 960$ which means 20% price premium. Now the total credit would be 1227 (800 + 2.67 × 160), which would be 53% higher than selling at the target price.

This scheme motivates to sell at higher prices but does not ignore the volume completely. An example of different sales scenarios is shown in Table 7. This example compares three different

sales representatives total sales credit with different price volume mixes. It is assumed that the price and volume are perfectly negatively correlated, which means that 100 decrease in price results into an increase of 100 in the volume. This analysis shows that the sales representative C with the highest prices can reach the revenue target more easily than the low-price peer A.

Table 7. Sales credit calculation with the kicker adjustment on individual level

Sales person	Target price	Actual price	Units sold	Credit	Revenue
A	$ 800	$ 600	1200	$ 319 200	$ 720 000
B	$ 800	$ 800	1000	$ 800 000	$ 800 000
C	$ 800	$ 1 000	800	$ 1 067 200	$ 800 000
Total			**3000**	**$ 2 186 400**	**$ 2 320 000**

The incentive targets are typically based on fixed targets where 75% of the budgeted target is bottom threshold where the bonus starts to kick in. In this example, the revenue target of 800 000$ would be 100% of the budget and 125% would be the threshold of maximum bonus. However, the challenge with this approach is similar to any fixed target-based bonuses (Jensen 2003). For example, if the revenue target is fixed to be 800 000$ in a year, there is no motivation for the C to push for higher sales volumes after this target is met. The solution is to base bonus on each incremental profit dollar that the sales person can generate. However, this method is not flawless either. This would discriminate individual sales reps because some of them may have more profitable customers and some less profitable. The solution is to pay the individual bonuses from a shared pool that is based on the overall LSU performance. In addition, the kicker system would be too complex to implement on LSU level because the contribution margin should be calculated for each product, which would make the system complex to manage.

Sales unit level incentives

The unit level incentive should also consider both profit and volume. Capital based performance metrics like economic value added (EVA) or cash return on invested capital (CROIC) would be optimal in most cases. In fact, the case company has utilized CROIC as a unit level measure previously. However, the limitation is that on the LSU level, there rarely is no measurable tied capital other than account receivable and cash. For the largest units these measures could work, but for the smaller units not. Due to this, utilizing the capital-based metrics would

give a distorted view of the actual LSU performance. Another issue is that this would not allow the scheme harmonization if large units would be measured on these metrics and smaller with other. Thus, the option is to tie the metrics on margin level performance, which can be effectively and reliable measured for all LSUs. However, there are some challenges with this approach too.

Using a fixed margin like gross-margin, to measure profit would motivate to leave less profitable volume out. On the other hand, an absolute amount of generated margin would in theory motivate both. However, still the weight of the volume would be higher because giving high discount for large deals would generate more absolute distributable margin. What if the incentives would be based on each incremental unit of profit that the units can generate with price and volume increases? Appendixes 2, 3, and 4. show example calculations of the individual impact of price and volume impact on overall profits. These examples assume that 50% of the incremental price and volume impact on the LSU profitability is distributed and shared equally to the sales persons. The example shows, that even with the high bonus payout, the total company profit increases. For comparison, the impact of both volume and price simultaneously is illustrated in the Exhibit 5. This example also acts as the basis for the hybrid incentive plan which covers both volume and profit. The calculations shows that due to the fixed transfer price, only way for the LSUs to increase their margin percentage is to sell at higher prices.

To form a hybrid incentive scheme on LSU level with the only tools being revenue and margin levels. One suggestion is to multiply the absolute gross margin with the gross margin percentage. This is also a thought from the business unit's sales and marketing manager, who thought that this would be a better metric than pure volume. The idea is that the equation would then form a LSU level shared pool of bonus. Some portion of this pool can then be shared for example, equally among the sales representatives. These calculations are presented below:

$$Gross\ Margin\ \$ \times Gross\ Margin\ \% = Bonus\ Pool$$

$$\frac{Bonus\ Pool \times \%\ to\ be\ shared}{Number\ of\ Sales\ Persons} = Individual\ Bonus$$

Table 8. shows comparison of how the individual bonus is affected by the elements of this incentive scheme. The outcome is that this type of incentive would still motivate the profit aspect more. However, because the final pool would be distributed equally among the sales presentative, this would not discriminate the ones who have more difficult customers. Finally, as shown in the appendix 5. the balance also results into the highest overall absolute gross margin on LSU level.

Table. 8. Bonus pool example calculations on LSU level

Case	Volume	GM-$	GM-%	Bonus pool	Share-%	Sales persons	Share of profit
A	$ 10 000 000	$ 2 000 000	20 %	$ 400 000	50 %	10	$ 20 000
B	$ 5 000 000	$ 2 500 000	50 %	$ 1 250 000	50 %	10	$ 62 500
C	$ 7 500 000	$ 2 625 000	35 %	$ 918 750	50 %	10	$ 45 938

It should also be noted that there are some other aspects that should be considered when the overall target prices and incentives are designed. For example, in some cases it is better to sell at lower prices than to sell at all if the costs can reduce overall fixed costs of a product line for example. However, in the opposite case of under capacity this method would optimize to sell at higher prices even if the unit volume would decrease. These are typical capacity optimization issues and are not discussed further in this thesis.

Finally, the concrete actions that should be taken are following:

- Calculate the LSU incentive level based on the absolute gross margin and gross margin percentage and distribute portion of the incremental benefit among sales people.
- If the LSU level is not applicable, instead the sales target should be based on volume and kicker adjustment should be used to motivate profit.

6.5 Monitoring the sales performance and taking corrective actions

To improve the pricing performance in short- and long-term, a proper performance monitoring process should be implemented. The suggestion is that finance and sales should continue to

focus on the budget follow-up with the key difference being the volume-price mix improvement. The pricing function should focus more on the discount level analytics. At this stage, the best solution is focus on the product line and channel level discount analyses, which compare the account size by revenue against the given discounts. Examples of these analyzes were shown earlier in Figures 16. and 17. In practice this means that the discount analyses should be conducted on LSU level on regular basis, preferably monthly but at least on quarterly basis. The objective is to analyze whether the LSUs are adding any consistency to their discounting policies. If this does not seem to happen, a further intervention should be made to specifically question why similar accounts get highly varying discounts. This can be done by conducting a customer profitability mapping analysis which is introduced next.

Customer profitability mapping

The performance measurement process should be extended to cover the customer profitability. This will allow the control systems to be adjusted to get rid of unprofitable customers if necessary. The basic discount analysis only shows the overall picture of how the discounts are scattered. To get deeper, the customers should be categorized by their size and profitability into separate categories. The proposal is that the pricing function conducts this analysis after the overall discount analysis is done. After this, the LSU management should be interviewed to find reasons behind inconsistencies. For example, identical customer in terms of size, industry and any other aspects, should not receive highly varying discounts. Most importantly, this analysis allows for a further customer specific control. In practice, a low-volume customer with low profitability is not valuable when compared to other with higher profits or volumes. The only reason are the strategic customers like OEM accounts, which can in some cases even have negative margins. The only reasons to retain these customers are the possible strategic benefits that are estimated to be realized in the future. Nevertheless, these customers should be basically excluded from this analysis. An overview of this analysis is shown below in Figure 21. Next all the customer categories are introduced.

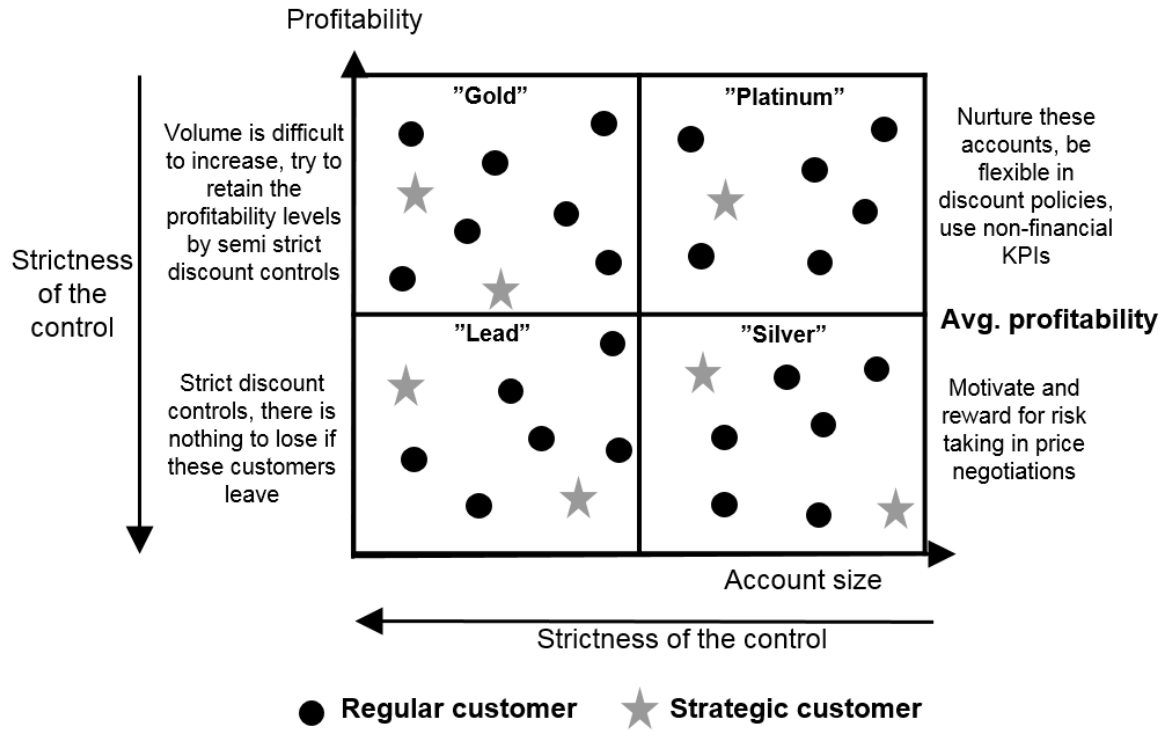


Figure 21. Customer segmentation and control (Partially based on the idea by Nagle et al. 2014, p. 170)

The *Lead category* customers with weak profitability and insignificant volumes should be treated strictly. In practice, this means that a very strict discount range should be applied into this segment. This is motivated by the fact that if these customers decide to switch supplier, Eauco will not lose much. In fact, the average profitability will improve. Practical control adjustment would be to decrease the pricing corridor, or to simply apply direct price increases.

Accounts in the *Silver category* with low profitability and high volume should be analyzed more carefully. Is there a chance to increase the net prices for these customers? High-volume accounts can have a significant profit impact even if their prices increase even slightly. Considering this, it would be best to motivate the sales force to negotiate higher prices by providing them more compensation on successful price increases. The proposed incentive policy adjustment should solve the motivation issue. However, because the volumes are also motivated, this means that some sales persons balance between the volume and profit. This means that the incentive policies should be changed to motivate for more profit if this customer category somehow becomes an issue.

Customers in the *Gold category* with low volume but high profitability can be considered as the second-best category in profitability sense. Often, if the customer is small, there is no possibility to increase the volume even by extending the discounts. The best practice within this segment is to have semi-strict discount corridors to retain the profitability levels. If the discounts increase, these customers will fall into the worst customer category very quickly. However, as long as the customers remain above the average profitability, some rebates should be allowed. This category is mainly handled by the LSU pricing corridor and incentives, which can be adjusted if necessary.

Finally, the best customers in the *Platinum category* have high profitability and high volume. Obviously, these customers should receive special attention. This means that the sales should have much authority to keep these customers satisfied. The performance measurement should also focus on non-financial metrics like customer satisfaction. The overall control package automatically steers the sales force to push all the customers into this category mainly via the incentive.

In addition to the regular customers, there are strategic customers which should always be treated specially. The main control for the customers is the distribution of vertical decision rights that allows the LSU to handle smaller customer by themselves. For larger accounts they need approval from the global management.

Summary

In summary, the performance measurement is conducted on two levels. The regular budgeting procedure monitored by the finance and sales functions focuses on the big picture. This means that they focus on the overall sales mix and profitability follow-up. They also focus on the net-price variance as key metric to analyze and forecast the price erosion development. On the second level, the pricing function conducts and coordinates the pricing specific analysis. These consist mainly of the overall LSU discount analysis and customer profitability mapping. Finally, the outcomes of these analyses should contribute to the management control adjustments. The adjustments should be done by the PG management team, where the function managers propose the changes.

In the future, the pricing analytics should be developed towards more detailed analysis if possible. These are for example, the price banding analysis suggested by Nagle et al. (2014). This analysis would provide a more accurate overview of how well the LSUs are staying within the intended pricing corridors. In addition, the price waterfall analysis suggested by Marn and Rosiello (1992) would allow a very detailed break-down of the actual discounts. However, during this stage of the pricing management, both of these analyses require too much resources and would not provide a comprehensive enough view of the big picture.

Finally, the concrete actions should be the following:

- Finance and sales coordinate the regular budget follow-up, which is improved by the earlier recommendations.
- Pricing coordinates the discount analyses on LSU level to see the overall development.
- Pricing collaborates with LSUs to conduct the customer profitability mapping.
- Management should adjust the controls if necessary.
- Adapt more specific pricing analytics when required and if possible.

6.6 Summary

As a final verdict, the recommendations do not consist of a single control system, but rather of a package of controls as proposed in the Malmi and Brown (2008) framework. The motivation behind this comprehensive package of controls is to secure that more goals could simultaneously be achieved with the effective pricing process. For example, the demand for international price coherency cannot be achieved by motivating people with profit-based rewards. Instead, international coherency requires a guidelines and rules for global price levels. In addition, the pricing process re-engineering does not directly motivate or establish rules but is essential for the implementation of the other controls.

Considering the former overall success with the highly decentralized and uncontrolled process, there are some risks for implementing the controls. It is evident that the pricing process requires formality and control to properly answer to central managements desirers. However, it is still a question how tight the final control system should be. Non-flexible controls might hinder the current performance to some degree. Finally, adjusting the existing control mechanisms and

implementing the new ones requires careful consideration because all the functions do not have an exact goal congruence, mainly between the balance of profit and volume. However, this type of control package is highly recommended for comprehensive pricing management to unleash the full potential of pricing. Also, the recommendations are mainly backed by the presented academic and professional literature. Finally, the proposed control package is illustrated in Figure 22. which shows the functions' responsibilities for developing and adjusting the controls and strategies via the feedback loop from the performance measurement.

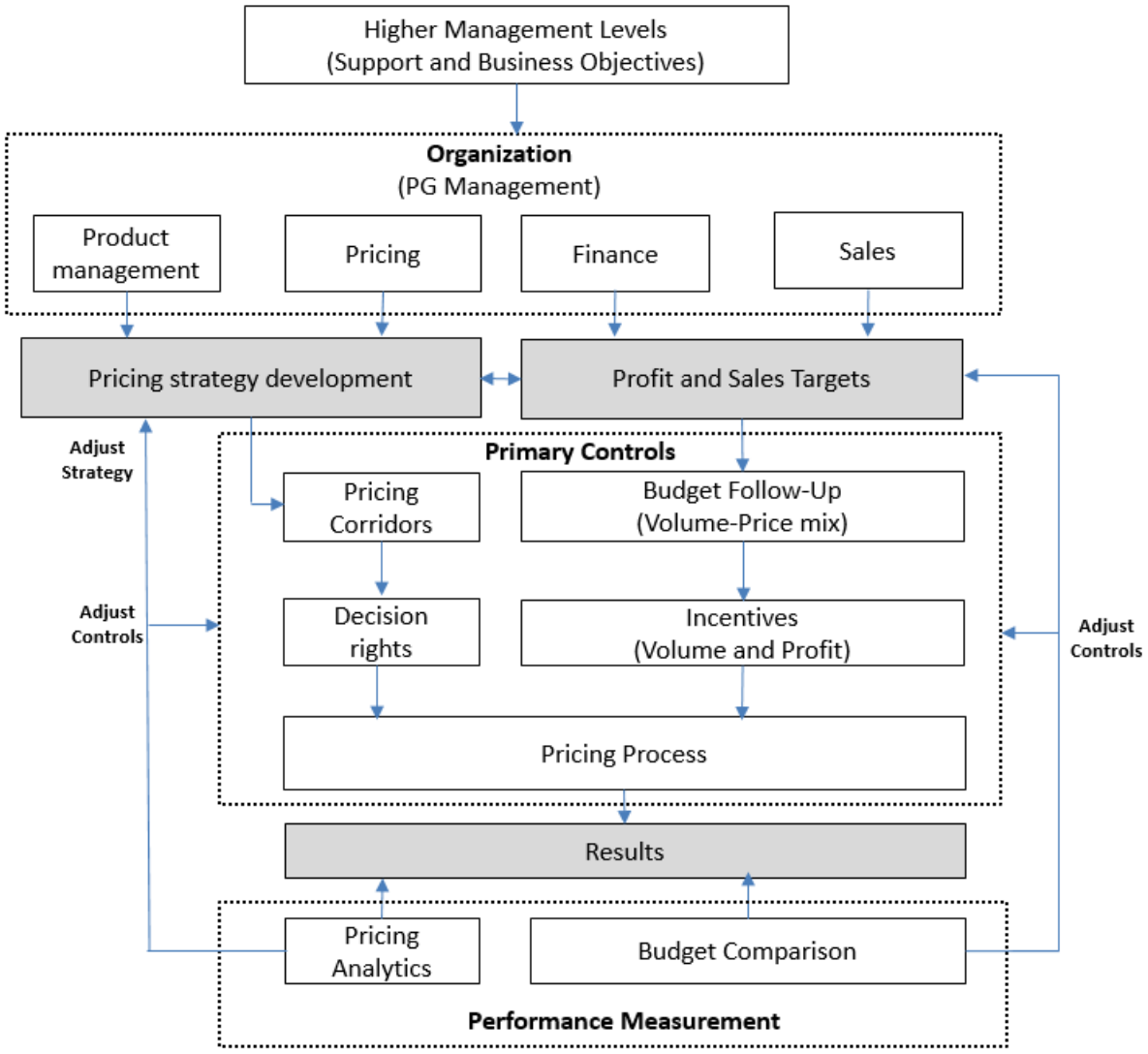


Figure 22. An overview of the proposed control package

7 Conclusions

Limitations

Limitations of this study are typical for normative and constructive case studies, which aim to provide solutions for practical real-world research problems. This thesis is not a pure research paper that aims to investigate how firm's do pricing. Instead, this thesis might provide a reference or a starting point for other practical solution seekers or even researchers who are facing similar setting. Finally, the most important limitation is that the provided recommendations cannot be tested in practice due to the thesis time frame. This means that the recommendations functionality and adequacy are not analyzed and neither confirmed by the author.

Managerial implications

It is evident that paying more attention to pricing can have a significant impact on the overall business performance. Especially the profitability impact is endorsed by several studies. In fact, just a 1% increase in average prices resulted into a 12,3% EBIT increase on average Fortune 1000 company (Deloitte 2011). The impact of price was 3 to 4 times more than cost reductions and volume increase. Managers should speculate how difficult it would be to increase the price levels to achieve these benefits. This should create a true incentive for any company to begin optimizing its pricing process. However, realizing the pricing potential in practice is somewhat complex mainly because of two reasons. First, there are some risks when the pricing process is interfered. For example, if the overall business performance is satisfactory, why should companies try to fix what is not broken? Secondly, implementing sufficient control over pricing process requires resources and true attention from the top management. These two points must be analyzed case by case to estimate if the potential benefits have the possibility to outweigh the related risks and required resources.

This thesis mainly provided recommendations for implementing pricing strategies and how to keep the operational pricing effective. For more comprehensive pricing management, companies should also focus on developing the pricing strategies and on overall pricing planning. From the strategic perspective, it is worthwhile to consider the complete adaption of value-based pricing. It is strongly emerging theme in the pricing management field and there is a strong support from, both academic and professional literature. However, realizing the promised benefits require much more intervention to the design of MCS in the pricing process. In practice this means that a set or package of controls should be implemented. Often, not a single

control can improve the overall pricing performance and support the whole process from strategic planning to execution. This is why the set of controls is suggested. However, it is not ruled out that adjusting just a single control or a component of control could not cause any improvements. For example, adjusting incentive schemes to motivate higher prices can certainly improve profits in favorable settings. However, this does not absolutely provide the comprehensiveness and interlinkedness of package type controls to support the whole pricing process. Finally, to unleash any pricing potential, it is recommended to focus on narrower set controls instead of doing nothing.

Further research avenues

New academic research avenues could approach the pricing management by paying more attention to the operational pricing. There are moderate number of research how the pricing strategies should be defined and how the price points should be defined on product and customer level. However, more research should be conducted to identify which implementation controls are effective in different pricing contexts. In addition, the pricing literature lacks proper control framework research, whereas management accounting literature provides several.

Finally, it does not truly matter who is researching these topics, but more discussion between the management accounting and marketing scholars should be beneficial. For example, Laitinen (2011) suggests this due to the complexity of pricing. He also suggests that more deep dive case studies of pricing should be conducted. According to him case studies should be able to better capture the relevant information instead of larger questionnaires, which are more often used in the pricing related studies. For example, in this thesis the case study approaches to pricing were more beneficial for getting grip of the big picture and to better understand what real actions should be taken.

The management accounting research offered narrow number of pricing related studies, which did not originate from the cost domain. From the general management accounting research perspective, academics should probably widen the pricing studies to consider other than the dominating cost perspective. Of course, the cost aspects of pricing are important but for example, cost-based pricing strategies are constantly losing popularity. This can shift the accountants' role from even more from the cost specialists to market-oriented professionals when supporting the pricing decisions and execution.

8 References

Baldauf, A., Cravens D. W., Piercy, N., (2005). Sales Management Control Research - Synthesis and an Agenda for Future Research, *Journal of Personal Selling & Sales Management*, vol. 25, no. 1, pp. 7-26

Bitran, G., Caldentey, R. (2003*).* An Overview of Pricing Models for Revenue Management, *Manufacturing & Service Operations Management*, Vol. 5, No. 3, Summer 2003, pp. 203–229

Cannon, H. M., Morgan, F. W. (1990). A Strategic Pricing Framework, *Journal of Services Marketing*, Vol. 4 Issue: 2, pp.19-30

Chenhall, R. H., Langfield-Smith, K. (2007). Multiple perspectives of performance measures, *European management journal*, Vol. 25, No. 4, pp. 266-282

Chenhall, R. (2003). Management control system design within its organizational context: Findings from contingency-based research and directions for the future, *Accounting, Organizations and Society*, 28(2-3), 127-168

CIMA Official Terminology (2005). The Chartered Institute of Management Accountants

Clegg, S., Kornberger, M., Pitsis, T. (2005). Managing and Organizations: An Introduction to Theory and Practice, SAGE, London

Davidson, A., Simonetto, M. (2005). Pricing strategy and execution: an overlooked way to increase revenues and profits, *Strategy & Leadership*, Vol. 33 Issue: 6, pp.25-33

Deloitte (2011). Pricing and Profitability Management: A Practical Guide for Business Leaders 1st Edition

Docters, R., Reopel M., Sun, J. M., Tanny, S. (2004). Capturing the unique value of services: why pricing of services is different, *Journal of Business Strategy*, Vol. 25 Issue: 2, pp.23-28

Drury, C., (2000). Management and Cost Accounting, 5th ed. Thompson Business Press, London, England, pp. 387–390

Dutta, S., Zbaracki M. J., and Bergen M. (2003). Pricing Process as a Capability: A Resource-Based Perspective, *Strategic Management Journal* Vol. 24, No. 7, pp. 615-630

Ferreira, A., Otley, D. (2009). The design and use of performance management systems: An extended framework for analysis, *Management Accounting Research*, 20 (2009) 263–282

Fisher, G. J. (1998). Contingency Theory, Management Control Systems and Firm Outcomes: Past Results and Future Directions, *Behavioral Research in Accounting*, Supplement, Vol. 10, p47. 18

Flamholtz, E., Das, T., Tsui, A., (1985). Toward an integrative framework of organizational control, *Accounting Organizations and Society*, 10 (1), 35–50

Foster, G., Gupta, M. (1994). Marketing, Cost Management and Management Accounting, *Journal of Management Accounting Research*, vol. 6, pp. 43-77

Gleaves R., Burton K., Kitshoff J., Bates K., & Whittington M. (2010). Accounting is from Mars, marketing is from Venus: establishing common ground for the concept of customer profitability, *Journal of Marketing Management*, 24:7-8, 825-845

Guilding C., Drury.C, Mike Tayles M., (2005). An empirical investigation of the importance of cost-plus pricing, *Managerial Auditing Journal*, Vol. 20 Issue: 2, pp.125-137

Hall, R.I., Hitch, C.J., (1939). Price theory and business behaviour. Oxford Econ. Papers 2, 12–45

Hansen, S., Otley, D., Van der Stede, W. (2003). Practice developments in budgeting: an overview and research perspective, *Journal of Management Accounting Research* 15, 95–116

Harvard Business Review (2016). A Quick Guide to Value-Based Pricing, *Harvard Business Review*, August 09, *https://hbr.org/2016/08/a-quick-guide-to-value-based-pricing*

Hinterhuber A. (2004). Towards value-based pricing—An integrative framework for decision making, *Industrial Marketing Management* Vol. 33, pp. 765–778

Hinterhuber A. (2008). Customer value-based pricing strategies: why companies resist, *Journal of Business Strategy*, Vol. 29 Issue: 4, pp.41-50

Hinterhuber A., Liozu S. (2012). Is It Time to Rethink Your Pricing Strategy?, *MIT Sloan Management Review*, Magazine: Research Feature June, Vol. 53, No. 4

Hinterhuber A. (2018). Revenue Pricing Management, 17: 1. https://doi.org/10.1057/s41272-017-0129-6.

Horngren C. (1977). Cost accounting 4th edition, p 342. Englewood Cliffs, N. J. Prentice-Hall

Homburg C., Jensen O., Hahn A. (2012). How to organize pricing? Vertical delegation and horizontal dispersion of pricing authority, *Journal of Marketing*, vol:76 iss:5 s:49

Hornby W. B., Miles Macleod M. (1996). Pricing behaviour in the Scottish computer industry, *Management Decision*, Vol. 34 Issue: 6, pp.31-42

Ingenbleek P., Debruyne M., Frambacj R. T., Verhallen T. M. M. (2003). Successful new product pricing practices: A contingency approach, *Marketing letters* 14:4, 289-305

Jensen M. C. (2000). A theory of the firm: governance, residual claims, and organizational forms, *Harvard University Press*, Cambridge

Jensen M. C. (2003). Paying People to Lie: the Truth about the Budgeting Process, *European Financial Management*, Vol. 9, No. 3, 2003, 379–406

Johnson, H.T., Kaplan, R.S., (1987). Relevance Lost: The Rise and Fall of Management Accounting, *Harvard Business School Press*, Boston, MA

Kaplan, R. S., Norton, D. P. (1984). The Evolution of Management Accounting, *The Accounting Review*, Vol. 59, No. 3, pp. 390-418

Kaplan, R.S., Norton, D. P. (1992). The balanced scorecard—measures that drive performance, *Harvard Business Review 70* (January–February), 71–79

Kaplan R. S., Norton D. P. (2006). Alignment, *Harvard Business Press*, 23 Feb - Business & Economics

Keränen J., Jalkala A. (2014). Three strategies for customer value assessment in business markets, *Management Decision*, Vol. 52 Issue: 1, pp.79-100

Kotler P. (2009; 2003). Marketing management. New York, NY: Prentice Hall

Kober R., J. Ng., Paul B. J. (2007). The interrelationship between management control mechanisms and strategy, *Management accounting research*, vol:18 iss:4 s:425

Laitinen E. K. (2011). Management Accounting in Pricing Decisions, In: Abdel-Kader M.G. (eds) *Review of Management Accounting Research*. Palgrave Macmillan, London

Lancioni R. (2005). A strategic approach to industrial product pricing: The pricing plan, *Industrial Marketing Management* 34. 177–18

Liozu, S. (2015). Pricing superheroes: How a confident sales team can influence firm performance, *Industrial Marketing Management* 47. 26–38

Lord, B. R. (1996). Strategic management accounting: the emperor's new clothes?, *Management accounting research*, Vol. 7 p. 347-366

Lucas, M. R. (2003). Pricing decisions and the neoclassical theory of the firm, *Management Accounting Research*, 14 (2003) 201–217

Lucas, M. R., Rafferty, J. (2008). Cost analysis for pricing: Exploring the gap between theory and practice, *British Accounting Review*, 40(2) pp. 148–160

Malmi, T., Brown, D. A. (2008). Management controls as a package, *Management Accounting Research* 19 287-3

Marn M. V., Rosiello R. L. (1992). Managing Price, Gaining Profit, *Harvard Business Review*, September–October Issue

Matthew, B., Myers, S., Tamer, Cavusgil., Adamantios, Diamantopoulos. (2002). Antecedents and actions of export pricing strategy: A conceptual framework and research propositions, *European Journal of Marketing*, Vol. 36 Issue: 1/2, pp.159-188

McKinsey (2015). Pricing in retail: Setting strategy, https://www.mckinsey.com/industries/retail/our-insights/pricing-in-retail-setting-strategy

Merchant K. A. (1982). The Control Function of Management, *Sloan Management Review* (pre-1986); 23, 4; ABI/INFORM Collection pg. 43

Merchant K. A., Van der Stede W. A., Liu Zheng L. (2003). Disciplinary constraints on the advancement of knowledge: the case of organizational incentive systems, *Accounting, Organizations and Society*, Volume 28, Issues 2–3, Pages 251-286

Merchant, K., Van der Stede, W.A., (2007). Management Control Systems, 2nd ed. Prentice Hall, Pearson Education Limited, Harlow, Essex, England

Monroe, Kent B. (2003, 1990, 1979). Pricing: Making Profitable Decisions, McGraw-Hill, New York

Nagle, T. T., Hogan, J. E., Zale, J. (2014). The strategy and tactics of pricing: A guide to growing more profitably, new international edition, 5th edition, Pearson education, Inc. New York

Noble P. M., Gruca T. S. (1999). Industrial Pricing: Theory and Managerial Practice. *Marketing Science* 18(3):435-454

Otley, D. (1999). Performance management: a framework for management control systems research, *Management Accounting Research*, 10, 363-382

Piercy, N. F., Cravens, D. W., Morgan, N.A. (1999). Relationships between sales management control, territory design, salesforce performance and sales organization effectiveness, *British Journal of Management*, Vol. 10, 95-111

Porter, M. E. (1980). Competitive Strategy: Techniques for Analyzing Industries and Competitors. New York: Free Press

Scapens, R.W., (1994). Never mind the gap: towards an institutional perspective of management accounting practices. *Management Accounting Research*, 5, 301–321

Sharp, D. J. (1994). The effectiveness of routine-based decision processes: The case of international pricing, *Journal of Socio-Economics*, 10535357, Spring/Summer, Vol. 23, Issue ½

Simon, H., Butscher, S., Sebastian, K. (2003). Better Pricing Processes for Higher Profits, *Business Strategy Review*, 14, 2, pp. 63-67

Simons, R. (1991). Strategic Orientation and Top Management Attention to Control Systems, *Strategic Management Journal*, 12(1), 49-62

Simons, R. (1994). How new top managers use control systems as levers of strategic renewal, *Strategic Management Journal*, 15, 169–189

Simons, R. (1995). Control in the Age of Empowerment, *Harvard Business Review*, 73, 2, pp.80-88

Simmonds, K. (1982). Strategic Management Accounting for Pricing: A Case Example, *Accounting and Business Research*, 12:47, 206-214

Smith, T. J. (2013). Who Should Control Pricing? Sales, Marketing, or Finance?, *The Pricing Advisor, September*, http://media.pricingsociety.com/publications

Smith, T. J. (2016). Pricing Done Right: the pricing framework proven successful by the world's most profitable companies, Wiley, Series: Bloomberg financial

Sodhi, M. S., Sodhi, N. S. (2005). Six Sigma Pricing, *Harvard Business Review*, vol. 83, no. 5, pp. 135-142

Sodhi, M. S., Sodhi, N. S. (2008). Six Sigma Pricing – Improving Pricing Operations to Increase Profits, FT Press, Upper Saddle River

Tellis, G. J. (1986). Beyond the Many Faces of Price: An Integration of Pricing Strategies, *Journal of Marketing*, Vol. 50, No. 4, 146-160

Tellis, G. J. (1988). The Price Elasticity of Selective Demand: A Meta-analysis of Econometric Models of Sales, *Journal of Marketing Research*, Vol. XXV, 331-41

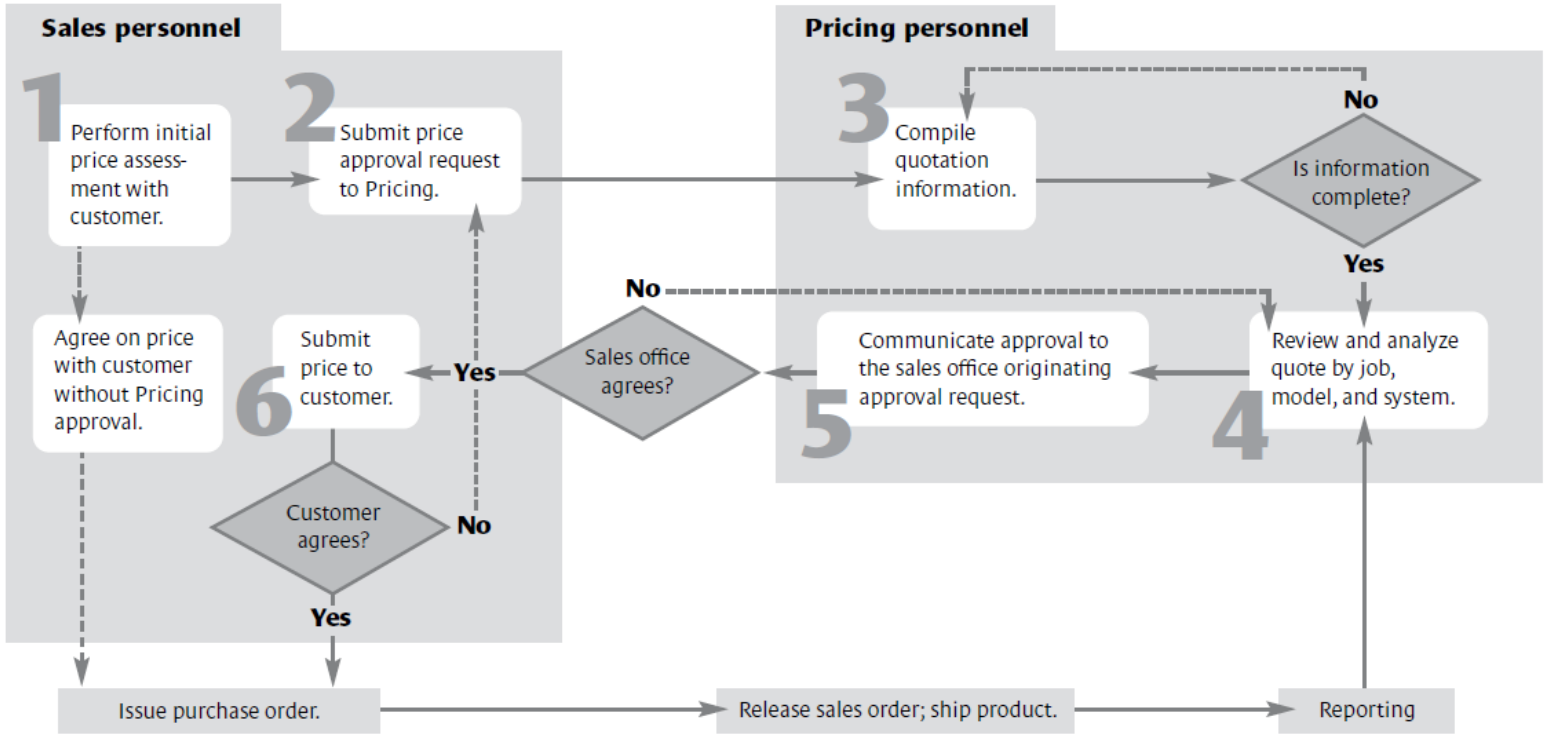
Tessier, S., Otley, D. (2012). A conceptual development of Simon's levers of control framework, *Management Accounting Research* 23, 171–185

Appendices

1. Example of step-by-step pricing process (Sodhi and Sodhi 2005)
2. Assumptions used in the calculations
3. Price impact on profitability calculation
4. Volume impact on profitability calculation
5. Price-Volume mix impact on profitability

What Are We Doing?

When Acme's Six Sigma team mapped the company's existing pricing process, it became easy to see not only how the process was supposed to work but how it actually worked. The formal process comprised six main steps, which should have been taken in sequence (as depicted with solid lines). But oftentimes, sales reps sidestepped it all by negotiating final prices with the customer directly. Other times, the process got bogged down as pricing analysts rooted around for information they should have already obtained from the sales staff in Step 2 or negotiations went back and forth between the sales rep and the pricing analyst (essentially getting stuck before Step 6).



Appendix 1. (1/5)

Appendix 2. (2/5)

Assumptions used in price-volume impact and bonus calculations

Price corridor		
Floor	$	700
Target price	$	800
Ceiling	$	1 000
Assumptions		
Units sold		10 000
Price per unit	$	700
Transfer price (COGS)	$	500
Employees		10
Fixed salaries (per annum)	$	100 000
Bonus % of the incremental gross margin generated		50 %

Price increase impact on profitability

Key variable	**Price floor**		**Target price**		**Price ceiling**
Price increase from price floor	0 %	7 %	14 %	21 %	29 %	43 %
Units sold	10000	10000	10000	10000	10000	10000
Price per unit	700	750	800	850	900	1000
Total sales volume	**$ 7 000 000**	**$ 7 500 000**	**$ 8 000 000**	**$ 8 500 000**	**$ 9 000 000**	**$ 10 000 000**
Transfer price (500$ per unit)	$ 5 000 000	$ 5 000 000	$ 5 000 000	$ 5 000 000	$ 5 000 000	$ 5 000 000
Gross margin abs.	**$ 2 000 000**	**$ 2 500 000**	**$ 3 000 000**	**$ 3 500 000**	**$ 4 000 000**	**$ 5 000 000**
Gross margin-%	28,6 %	33,3 %	37,5 %	41,2 %	44,4 %	50,0 %
SG&A costs total	**$ 1 000 000**	**$ 1 250 000**	**$ 1 500 000**	**$ 1 750 000**	**$ 2 000 000**	**$ 2 500 000**
Fixed wages	$ 1 000 000	$ 1 000 000	$ 1 000 000	$ 1 000 000	$ 1 000 000	$ 1 000 000
Bonus	$ -	$ 250 000	$ 500 000	$ 750 000	$ 1 000 000	$ 1 500 000
EBIT	**$ 1 000 000**	**$ 1 250 000**	**$ 1 500 000**	**$ 1 750 000**	**$ 2 000 000**	**$ 2 500 000**
Bonus calculation						
Price incr. Contribution to GM	**0**	**$ 500 000**	**$ 1 000 000**	**$ 1 500 000**	**$ 2 000 000**	**$ 3 000 000**
Bonus for employees (50% of abs. GM)	$ -	$ 250 000	$ 500 000	$ 750 000	$ 1 000 000	$ 1 500 000
Per employee (10 employees)	$ -	$ 25 000	$ 50 000	$ 75 000	$ 100 000	$ 150 000
Total compensation per employee	$ 100 000	$ 125 000	$ 150 000	$ 175 000	$ 200 000	$ 250 000
Total value added for Eauco						
Factory profit (250$ EBIT per unit)	$ 2 500 000	$ 2 500 000	$ 2 500 000	$ 2 500 000	$ 2 500 000	$ 2 500 000
LSU profit	$ 1 000 000	$ 1 250 000	$ 1 500 000	$ 1 750 000	$ 2 000 000	$ 2 500 000
Total profit	**$ 3 500 000**	**$ 3 750 000**	**$ 4 000 000**	**$ 4 250 000**	**$ 4 500 000**	**$ 5 000 000**

Volume increase impact on profitability

	Base case	Target increase				
Volume increase from base case	0 %	5 %	10 %	15 %	20 %	30 %
Units sold	10000	10500	11000	11500	12000	13000
Price per unit	700	700	700	700	700	700
Total sales volume	**$ 7 000 000**	**$ 7 350 000**	**$ 7 700 000**	**$ 8 050 000**	**$ 8 400 000**	**$ 9 100 000**
Transfer price (500$ per unit)	$ 5 000 000	$ 5 250 000	$ 5 500 000	$ 5 750 000	$ 6 000 000	$ 6 500 000
Gross margin abs.	**$ 2 000 000**	**$ 2 100 000**	**$ 2 200 000**	**$ 2 300 000**	**$ 2 400 000**	**$ 2 600 000**
Gross margin-%	28,6 %	28,6 %	28,6 %	28,6 %	28,6 %	28,6 %
SG&A costs total	**$ 1 000 000**	**$ 1 175 000**	**$ 1 350 000**	**$ 1 525 000**	**$ 1 700 000**	**$ 2 050 000**
Fixed wages	$ 1 000 000	$ 1 000 000	$ 1 000 000	$ 1 000 000	$ 1 000 000	$ 1 000 000
Bonus	$ -	$ 175 000	$ 350 000	$ 525 000	$ 700 000	$ 1 050 000
EBIT	**$ 1 000 000**	**$ 925 000**	**$ 850 000**	**$ 775 000**	**$ 700 000**	**$ 550 000**
Bonus calculation						
Volume increase	0	$ 350 000	$ 700 000	$ 1 050 000	$ 1 400 000	$ 2 100 000
Bonus for employees (50% of volume)	$ -	$ 175 000	$ 350 000	$ 525 000	$ 700 000	$ 1 050 000
Per employee (10 employees)	$ -	$ 17 500	$ 35 000	$ 52 500	$ 70 000	$ 105 000
Total compensation per employee	$ 100 000	$ 117 500	$ 135 000	$ 152 500	$ 170 000	$ 205 000
Total value added for Eauco						
Factory profit (250$ EBIT per unit)	$ 2 500 000	$ 2 625 000	$ 2 750 000	$ 2 875 000	$ 3 000 000	$ 3 250 000
LSU profit	$ 1 000 000	$ 925 000	$ 850 000	$ 775 000	$ 700 000	$ 550 000
Total profit	**$ 3 500 000**	**$ 3 550 000**	**$ 3 600 000**	**$ 3 650 000**	**$ 3 700 000**	**$ 3 800 000**

Appendix 5. (5/5)

Volume and price impact on sales and profit

Total sales volume								
	Price	700	750	800	850	900	950	1000
		Price increase	7 %	14 %	21 %	29 %	36 %	43 %
Volume	Volume increase	Floor		Target price				Ceiling
10000		$ 7 000 000	$ 7 500 000	$ 8 000 000	$ 8 500 000	$ 9 000 000	$ 9 500 000	$ 10 000 000
10333	3 %	$ 7 233 333	$ 7 750 000	$ 8 266 667	$ 8 783 333	$ 9 300 000	$ 9 816 667	$ 10 333 333
10667	7 %	$ 7 466 667	$ 8 000 000	$ 8 533 333	$ 9 066 667	$ 9 600 000	$ 10 133 333	$ 10 666 667
11000	10 %	$ 7 700 000	$ 8 250 000	$ 8 800 000	$ 9 350 000	$ 9 900 000	$ 10 450 000	$ 11 000 000
11333	13 %	$ 7 933 333	$ 8 500 000	$ 9 066 667	$ 9 633 333	$ 10 200 000	$ 10 766 667	$ 11 333 333
11667	17 %	$ 8 166 667	$ 8 750 000	$ 9 333 333	$ 9 916 667	$ 10 500 000	$ 11 083 333	$ 11 666 667
12000	20 %	$ 8 400 000	$ 9 000 000	$ 9 600 000	$ 10 200 000	$ 10 800 000	$ 11 400 000	$ 12 000 000
12333	23 %	$ 8 633 333	$ 9 250 000	$ 9 866 667	$ 10 483 333	$ 11 100 000	$ 11 716 667	$ 12 333 333
12667	27 %	$ 8 866 667	$ 9 500 000	$ 10 133 333	$ 10 766 667	$ 11 400 000	$ 12 033 333	$ 12 666 667
13000	30 %	$ 9 100 000	$ 9 750 000	$ 10 400 000	$ 11 050 000	$ 11 700 000	$ 12 350 000	$ 13 000 000
Gross margin Abs. (500 $ COGS per unit)								
10000		$ 2 000 000	$ 2 500 000	$ 3 000 000	$ 3 500 000	$ 4 000 000	$ 4 500 000	$ 5 000 000
10333		$ 2 066 667	$ 2 583 333	$ 3 100 000	$ 3 616 667	$ 4 133 333	$ 4 650 000	$ 5 166 667
10667		$ 2 133 333	$ 2 666 667	$ 3 200 000	$ 3 733 333	$ 4 266 667	$ 4 800 000	$ 5 333 333
11000		$ 2 200 000	$ 2 750 000	$ 3 300 000	$ 3 850 000	$ 4 400 000	$ 4 950 000	$ 5 500 000
11333		$ 2 266 667	$ 2 833 333	$ 3 400 000	$ 3 966 667	$ 4 533 333	$ 5 100 000	$ 5 666 667
11667		$ 2 333 333	$ 2 916 667	$ 3 500 000	$ 4 083 333	$ 4 666 667	$ 5 250 000	$ 5 833 333
12000		$ 2 400 000	$ 3 000 000	$ 3 600 000	$ 4 200 000	$ 4 800 000	$ 5 400 000	$ 6 000 000
12333		$ 2 466 667	$ 3 083 333	$ 3 700 000	$ 4 316 667	$ 4 933 333	$ 5 550 000	$ 6 166 667
12667		$ 2 533 333	$ 3 166 667	$ 3 800 000	$ 4 433 333	$ 5 066 667	$ 5 700 000	$ 6 333 333
13000		$ 2 600 000	$ 3 250 000	$ 3 900 000	$ 4 550 000	$ 5 200 000	$ 5 850 000	$ 6 500 000
	Gross margin -%	29 %	33 %	38 %	41 %	44 %	47 %	50 %